# A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI

**A DISSERTATION SUBMITTED TO THE TAMIL NADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING**

**OCTOBER 2018**

# A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI

**By**

**ABY THANKACHAN**

**A DISSERTATION SUBMITTED TO THE TAMIL NADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING**

**OCTOBER 2018**

# A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI

## CERTIFICATE

Certified that this is the bonafide work of **Mr. ABY THANKACHAN,** Karpaga Vinayaga College of Nursing, Pudukkottai submitted in partial fulfillment of the requirement for the degree of Master of Science in Nursing under the Tamil Nadu Dr. M.G.R. Medical University, Chennai.

**SIGNATURE OF THE PRINCIPAL:** _____

**Prof. S.SUMITHRA**,**M.Sc.(N), M.Sc.(Y), Ph.D.,**

Principal

Karpaga Vinayaga College of Nursing

Pudukkottai

**COLLEGE SEAL:** _____

Place : Pudukkottai

Date:

# A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI

**DISSERTATION COMMITTEE APPROVAL:** _____

**RESEARCH GUIDE :** _____

**Prof. S.SUMITHRA**, **M.Sc.(N), M.Sc.(Y), Ph.D.,**
Principal
Karpaga Vinayaga College of Nursing
Pudukkottai

**CLINICAL GUIDE :** _____

**Dr. P. DHAMODHARAN**, **MD**
Consultant Pulmonologist
Muthumeenakshi Multi Specialty Hospital,
Pudukkottai

**A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING**

**OCTOBER 2018**

# A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI

**REGISTER. NO: 301612701**

## CERTIFICATE

Certified that this is the bonafide work of **Mr. ABY THANKACHAN,** Karpaga Vinayaga College of Nursing, Pudukkottai submitted in partial fulfillment of the requirement for the degree of Master of Science in Nursing under The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

**EXAMINERS:**

1. **……**

2. **……**

**……**

**Prof. S.SUMITHRA**,**M.Sc.(N), M.Sc.(Y), Ph.D.,**

Principal

Karpaga Vinayaga College of Nursing

Pudukkottai

## TO WHOMEVER IT MAY CONCERN

This is to certify that the Ethical committee of Karpaga Vinayaga College of Nursing has discussed with its members regarding the topic "**A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"** during the year 2017-2018 adopted by **Mr. ABY THANAKCHAN** and its implications on study subjects for his thesis for M.Sc Nursing programme and the committee passed clearance for the same topic for him to pursue.

**ETHICAL COMMITTEE**

## ACKNOWLEDGEMENT

***"I will praise you, Oh lord, with my whole heart,***
***I will tell all your marvellous works,***
***I will be glad and rejoice in you;***
***I will sing and praise your name, oh! Most high"***

Drops of water make an ocean. Although bricks give the structure of house, proper foundation makes it strong. A thesis, however, insignificant it is, can seldom be claimed as the work of an individual. There have been persons who stood by me all my efforts to successfully complete my study and several hands behind in giving a shape to this research study, which would be impossible to mention all by name. In the absence of staunch support of those people, all the toil would have been in vain.

Thanks to **God Almighty** who has been with me throughout the happiness and hardships of my life and glory to his name as he has lifted me up from dust, showed me light and enlightened me with his wisdom to do something good to my fellow-beings.

With overwhelming joy and gratitude, I acknowledge the Stars of my study who encouraged me and involved themselves in the successful completion of this endeavour.

I express my sincere indebtedness to **Mr. N. Subramanian, B,Sc., LLB., PGDBA(Aus), Secretary** and **Dr. Kavitha Subramanian, M.Com., M.Phil., Ph.D., Managing Trustee, Karpaga Vinayaga Educational Trust,** for giving me an opportunity to do my post-graduation in nursing in this esteemed institution.

Excellent teacher is a complex matrix of builder, moulder, artist, leader and harvest. I would like to express my profound sense of gratitude, happiness and heartfelt thanks to my research guide **Prof. Mrs. S. Sumithra , M.Sc. (N), M.Sc. (Y), Ph.D.,** Principal, Karpaga Vinayaga College of Nursing, for her constant enthusiastic support, whole hearted encouragement, gave innovative ideas to incorporate, expert guidance, opinions towards this study throughout the completion. Her motivational efforts, generous assistances, have proved a great source of inspiration to me in completing this study. I owe my sense of gratitude at this moment to her for making me what I am today.

I extend my profound thanks to **Dr. P.Dhamodaran, MD,** Consultant Pulmonologist, Muthumeenakshi Multispecialty Hospital, Pudukkottai, my medical guide for his valuable suggestion, motivation, and constant support for my research study.

At this moment it's my pleasure to express my fervent gratitude and genuine thanks to my Class Coordinator cum research co-guide **Prof Mrs. M. Vanichitradevi, M.Sc.(N),** Vice Principal, Karpaga Vinayaga College of Nursing for her support to ensure the best quality of this piece of work. Her assuring glance, valuable scholastic suggestions, encouragement, keen interest in the conception, patience guidance, critical suggestions at the right time and inspiring words will never be forgotten. I consider it as a great honour and privilege to have completed under her supervision.

I extend my thanks to my research co-ordinator **Mrs. Radha. C, M.Sc. (N),** Professor, HOD, Department of Obstetrical and Gynaecological Nursing, Karpaga Vinayaga College of Nursing for the help rendered to me during the course of the study.

It gives me great pleasure to express my heartfelt gratitude to Head of the Department of Medical Surgical Nursing, **Mr. Geopaul Rufus Jebasingh, M.Sc.(N),** Assoc. Professor and **Mrs. Leema Mary, M.Sc.(N),** Assoc. Professor for the encouragement, guidance and suggestions rendered throughout the completion of my research work.

My sincere gratitude to **Mr. Mahibalan. C, M.Sc.(N),** Assoc. Professor**,** Head of the Department of Mental Health Nursing for his constant and expert guidance.

I convey my sense of remembrance and thank fullness to **Prof. Mr. Anbarasan. C, M.Sc(N), Mrs. Ramya Rosalind. S, M.Sc.(N), Mrs. Subashini. V, M.Sc.(N),** for their constant motivation and guidance in the initial stages of thesis work**.**

I am grateful to **the panel of experts** who have validated the content and tool, given their valuable suggestions, which helped to incorporate their views in this study. It is a matter of fact that without their esteemed suggestions, highly scholarly touch and piercing insight from inception till completion of the study, this work could not have taken shape.

I take this opportunity to express sincere thanks and extend my sense of obligation to all **Head of the Departments, Lecturers and faculty of Karpaga Vinayaga College of Nursing**, for their assistance, suggestions and meticulous care in correcting mistakes throughout my study.

I extend my special thanks to **Dr. Periyassamy, M.B.B.S, M.CH.**, Managing Director, Muthumeenakshi Multi speciality Hospital, Pudukkottai and **Dr. KH Salim, M.D** General Medicine, Managing Director, Team speciality Hospital, Pudukkottai , and for granting the permission to conduct the study.

A special note of gratitude to **all the participants** for their co-operation throughout the study. Without their co-operation it would not have been possible to complete my study.

My grateful thanks to **Mrs. Shalini. S, MPT,** Physiotherapist, Muthumeenakshi Multi speciality Hospital, Pudukkottai who validated my research tool and trained me to perform Deep Breathing Exercises and Incentive spirometry.

My special thanks to **Mr. L. Anand , M.Sc (N),** Reader, AIIMS, Bhuvaneshwar, **Prof. Dr. J. Vijay Rajakumar ,M.Sc (N), Ph.D.,** and **Mrs.Natramizh.V, M.Sc (N),** Head of the Department of Medical Surgical Nursing, Sri Aurobindo College of Nursing, Karur for their encouragement, guidance , suggestions and support in initial stages of my research study.

I extend my awful gratitude to **Mr. Santhoshkumar M.Sc., Statistics, M.Phil.,** Bio-Statistician**,** JJ College of Arts and Science, who gave his valuable suggestions and for validating the tool which help me to improve the quality of my research work.

I extend a special thanks to **Mrs. Saranya,** Librarian, Karpaga Vinayaga College of Nursing, and the **Librarian** of The Tamil Nadu **Dr. M.G.R Medical University, Chennai** for their help in locating appropriate search material.

My special thanks to **My Cafe Browsing Centre, Trichy** for the computer assistance which helped me to bring out this manuscript.

My grateful thanks to **Mrs. S. Santhakumari, P.G Asst. English**, Government Girls Higher secondary School, Keeranur , Pudukkottai for editing this manuscript and tool in English.

I thank my entire family for being always with me. Knowing that they always hold me in their thoughts and prayers gave me strength and go on. Special thanks to my beloved father, loving mother and my dear brother for their support, motivation, dedication, prayers, sacrifices and financially supports me to complete the study successfully.

I submit my deepest gratitude to all my friends, well-wishers and persons who rendered their valuable time and efforts either directly or indirectly with full hearted involvement in my research work.

# TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

# LIST OF APPENDICES

# ABSTRACT

Bronchial asthma is a chronic inflammatory disease of the airways that cause airway hyper responsiveness, mucosal edema, and mucus production. Patients with bronchial asthma may experiences difficulty in breathing, which needs the respiratory interventions such as bronchodilators, inhaler therapy and alternative therapies like breathing exercises, yoga and meditation. Respiratory care bundle comprises oral care, deep breathing exercises and incentive spirometry which will reduce the level of dyspnea among patients with bronchial asthma and it can be utilized as a non- pharmacological management in respiratory rehabilitation.

## STATEMENT OF THE PROBLEM

"A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"

## OBJECTIVES

1. To assess the pre test and post test level of dyspnea among the patients with bronchial asthma in experimental group and control group.

2. To evaluate the effectiveness of respiratory care bundle on dyspnea among the patients with bronchial asthma in the experimental group.

3. To find out the association between the post test level of dyspnea among patients with bronchial asthma with their selected demographic variables in experimental group.

| | | |
|---|---|---|
| Conceptual framework | : | J. M. Kenny's Open System Model |
| Research design | : | Quasi Experimental, pre test post test control group design<br>**E $O_1$ X $O_2$**<br>**C $O_1$ $O_2$** |
| Population | : | Patients with bronchial asthma |
| Sample size | : | 60 patients with bronchial asthma, 30 in experimental group and 30 in control group |
| Sampling | : | Non Probability – Purposive Sampling Technique |
| Setting | : | Muthumeenakshi Multi Specialty Hospital and Team Specialty Hospital, Pudukkottai |
| Tool | : | Demographic variables and Modified Borg's Dyspnea Scale |
| Data collection | : | The period of data collection was 6 weeks. Respiratory care bundle which includes oral care, deep breathing exercises and incentive spirometry was given to the patients with bronchial asthma for 3 days. The pre test and post test level of dyspnea was assessed with Modified Borg's Dyspnea scale. |
| Data analysis | : | Descriptive Statistics (Frequency, Percentage, Mean, Standard Deviation), and Inferential statistics (paired't' test, unpaired't' test, and chi – square) were used. |

## MAJOR FINDINGS OF THE STUDY

1. Experimental group of patients with bronchial asthma had experienced mild and moderate level of dyspnea when compared with control group.
2. There was a significant reduction in the level of dyspnea between experimental and control group. So that the administration of Respiratory care bundle was found to reduce the level of dyspnea among patients with bronchial asthma.
3. There was a significant association between the level of dyspnea among patients with bronchial asthma with the selected demographic variables in experimental group.

## CONCLUSION

1. Respiratory care bundle reduces the severity of dyspnea in patients with bronchial asthma.
2. Respiratory care bundle was found to be easy to administer and very affordable for patients with bronchial asthma.

# CHAPTER I

# INTRODUCTION

***"Without food …… 2 – 3 weeks ……Without water ……2 – 3 days ……***

***Without breathing ….. Only 3- 5 minutes …..."***

***- Anonymous***

## BACKGROUND OF THE STUDY

Nursing is an art and science to deliver care artfully with the passion of caring and respective for each client's dignity. It is based on body of knowledge that is continually changing with new discover and innovation. While administering nursing care, we should be conscious, do consistently, habitually and incorporate the principles of sound nursing into practice.

Respiration is the process of gas exchange between atmospheric air and the blood then between the blood and cells of the body. As the air breathed in moves through the air passages to reach the lungs, it is warmed or cooled to body temperature, moistened become saturated with water vapour and cleaned as particles of dust sticks to the mucus which coats the lining membrane.

**Waugh and Grant (2017)** stated that blood provides the transport system for oxygen and carbon-di-oxide between the lungs and the cells of the body. Exchange of gases between the blood and the lungs is external respiration and between the blood and the cells of the body is internal respiration.

Respiratory diseases like asthma, chronic obstructive pulmonary disease (COPD), Interstitial Lung Disease (ILD), pneumonia, tuberculosis (TB) are emerging as major health problems in the world. Respiratory diseases are polygenic as it results from gene-environment interaction. Like all other chronic

diseases, COPD and Asthma has modifiable and non-modifiable risk factors that are preventable. Cigarette smoking is the commonest risk factor noticed globally, but various epidemiological studies have got enough evidence that non-smokers may also develop these types of respiratory diseases. This indicates the presence of other factors like environmental tobacco smoke exposure, dust exposure at work place, outdoor air pollution and indoor air pollution, exposure to biomass smoke produced during heating and cooking biomass in poorly ventilated houses has become an important risk factor among women especially in developing countries. Low socioeconomic status was also found to be an important risk factor in many epidemiological studies. These diseases are preventable to a large extent if the risk factors are controlled.

As per **WHO**, Non communicable diseases refers to "Diseases that are chronic, life style related and usually progressive when not intervened". This holds true for respiratory diseases also as it is chronic, progressive and most of the risk factors are lifestyle related (smoking, biomass fuel exposure etc.). It is the leading cause of chronic morbidity and mortality worldwide and it has been projected to become third leading cause of death worldwide by 2020 and in middle income countries by 2030. Also respiratory diseases are expected to rise to become the fifth leading cause of loss of Disability Adjusted Life Year (DALY) by 2020 as per the global burden of disease study. It also causes huge economic and social burden on patients. They conclude as the respiratory diseases are the major public health problem with increasing prevalence especially in developing countries.

**Anand. L (2017)** stated that, asthma is one of the most common chronic diseases in the world. It has moved to centre stage as a public health problem only in last 30 years. It is estimated that around 300 million people in the world

currently have asthma. The rate of asthma increases as communities adopt western lifestyle and become urbanized. It is estimated that there may be an additional 100 million persons with asthma by 2025. India has approximately 15-20 million of asthmatics.

The **Indian Council of Medical Research (2016)** sponsored study in India reported the prevalence rate of asthma was 5.0% for males and 3.2% for females more than 35 years of age.

The **Global Burden of Disease Study (2016)** reports a prevalence of 251 million cases of respiratory diseases globally in 2016. Globally, it is estimated that 3.17 million deaths were caused by the disease in 2015 (that is, 5% of all deaths globally in that year). More than 90% of deaths occur due to respiratory diseases are in low and middle income countries.

**Guyatt et al., (2015)** said that, asthma accounts for about 1 in every 250 deaths worldwide. Mortality is not only issue when considering the impact of chronic lung disease, morbidity is an even greater issue. Patients with chronic lung disease suffer from reduced functional capacity, mainly from exertional dyspnoea, and accordingly this leads to decrease a quality of life.

**Jindal et al (2014)** from the department of Pulmonary Medicine, Chandigarh had reviewed all Indian studies on respiratory diseases, Out of 14 review studies, prevalence rates in most of these studies varied around 4-6% for males and 2-4% for females.

There are 235 million peoples currently suffering from asthma. Most asthma-related deaths occur in low- and lower-middle income countries. According to the latest WHO estimates, released in December 2016, there were 3, 83,000 deaths due to asthma in 2015.

## SIGNIFICANCE AND NEED FOR THE STUDY

**WHO, April 2017** stated that, Asthma is a major non communicable disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. Symptoms may occur several times in a day or week in affected individuals, and for some people become worse during physical activity or at night. During an asthma attack, the lining of the bronchial tubes swell, causing the airways to narrow and reducing the flow of air into and out of the lungs. Recurrent asthma symptoms frequently cause sleeplessness, day time fatigue, reduced activity levels and school as well as work absenteeism. Asthma has a relatively low fatality rate compared to other chronic diseases.

**World Health Organisation (2017)** reported on World Asthma Day, the deaths due to lung diseases in India were on the rise accounting for 11 per cent of the total deaths. 142.09 in every one lakh, died of one form of lung disease and India being first in deaths due to lung diseases in the world.

**Mohamed Saleem et al., (2017)** conducted a study on the prevalence of chronic obstructive pulmonary disease and asthma among adults in Madurai, Tamil Nadu which was a community based cross-sectional study done in Kallendiri block of Madurai district with adults aged above 30 years of both the sexes as study population. Sample size was 480. Using cluster sampling method, study participants were interviewed with semi-structured questionnaire and peak expiratory flow rate was measured using peak flow meter. Results of the research study states that prevalence of chronic obstructive pulmonary disease and asthma were 22.1% among the study population. Males (39.2%) had higher prevalence than females (12.2%). The prevalence of chronic obstructive pulmonary disease and asthma were significantly higher among increasing age, male sex, illiteracy,

low BMI, smokers, inadequate ventilation and those using biomass fuels for cooking. Finally it was concluded that with the fact, chronic obstructive pulmonary disease and asthma were highly prevalent among adults in rural area, call for a high index of suspicion of chronic obstructive pulmonary disease and asthma among persons age above 30 years with substantial exposure to risk factors.

An average of 450 – 550 patients were diagnosed with bronchial asthma, treated as inpatients in several hospitals, Pudukkottai and 900 – 1100 outpatients monthly were approaching and getting treatment as per the individual health statistical records of hospitals till the date.

**Hinkle and Cheever (2016)** defined bronchial asthma as chronic inflammatory disease of the airways that cause airway hyper responsiveness, mucosal edema, and mucus production.

**Chintamani (2015)** stated that asthma affects an estimated 25,000,000 Indians every year and this number is likely to increase by 50% by the year of 2020. COPD and asthma account for nearly 1.5% of total disease burden in the country. Among adults, women have a 30% greater prevalence of asthma than men.

The World Health Organization has released a report of 2015 Non-communicable Diseases (NCD) Global Survey, which stated that each year 16 million people die prematurely - before the age of 70 - from heart and lung diseases, stroke, cancer and diabetes. 1 in 4 Indians face the risk of death from an NCD before they hit the age of 70.

**Thomas et al., (2015)** reported that one-third of women and one-fifth of men diagnosed as asthmatic, suffered from dysfunctional breathing. They

hypothesized that these patients would show clinically relevant improvements in their quality of life as a result of breathing retraining.

**Parvaiz A Koul & Dharmesh Patel (2015)** reported that the burden of asthma is immense, with more than 300 million individuals currently suffering from asthma worldwide, about a tenth of those living in India. The prevalence of asthma has been estimated to range 2-12% in adults, being the commonest chronic disorder. Among 85,105 men and 84,470 women from 12 urban and 11 rural sites in India estimated the prevalence of asthma in India to be 2.05% among those aged more than 18 years, with an estimated national burden of 18 million asthmatics.

As per disease burden list by WHO World Health Statistics 2012, Chronic Obstructive Pulmonary Disease ranks second place with 11 % and Lower respiratory tract infections including Asthma, Bronchiectasis, 5% in fifth place followed by Tuberculosis, 3% in seventh place.

Pulmonary rehabilitation for patients with chronic lung diseases is well established and widely accepted as a therapeutic means of enhancing standard therapy in order to alleviate symptoms and optimize function. The primary goal of rehabilitation is to restore the patient to the highest possible level of independent function. The goal is accomplished by helping patients to increase their activity through the exercise training, and to reduce and gain control of their symptoms.

**Medline Plus (2015)** stated that oral care is a basic nursing care activity that provides relief and comfort to patients who are seriously ill and cannot perform this simple activity themselves. It includes the different kinds such as brushing with brush and tooth paste, Chlorhexidine mouth wash, hydrogen peroxide care, normal saline or salt water gargling.

Oral care with salt water gargling, works on the simple chemical process of osmosis in which the liquid moves from the concentrated form to the diluted form of the solution. Osmosis occurs when a solvent moves from an area of higher concentration to an area of lower concentration to attain equilibrium. Salt water is of a higher concentration, the sodium in it passes through the tissue membranes in respiratory tract where the fluid is in lower concentration. This sodium creates an environment that is not hospitable for the bacteria. This osmosis also helps flush out the fluid that builds up due to an infection and dehydrates the bacteria's environment. This helps in relieving some of the pain.

Gargling and rinsing mouth with salt water provide a range of health benefits including maintenance of the natural pH level, clears mucus and relieves nasal congestion, treats dry cough, prevents upper respiratory tract infection, and cleanses mouth.

Poor breathing technique can exacerbate the symptoms of asthma. Breathing re-training involves manipulation of the breathing pattern and may include relaxation sessions, advice and exercises. If it is effective, this would provide a simple self-help intervention for asthmatics.

**National Centre for Complementary and Integrative Health (2014)** stated that Diaphragmatic breathing, or deep breathing, is breathing that is done by contracting the diaphragm, a muscle located horizontally between the thoracic cavity and abdominal cavity. Air enters the lungs and the chest rises and the belly expands during this type of breathing. Diaphragmatic breathing is also known scientifically as eupnoea, which is a natural and relaxed form of breathing in all mammals. Eupnoea occurs in mammals whenever they are in a state of relaxation, i.e. when there is no clear and present danger in their environment.

**Tarun Saxena (2009)** conducted a study on effect of various breathing exercises in patients with bronchial asthma of mild to moderate severity. Fifty cases of bronchial asthma (Forced Expiratory Volume in one second (FEV1) > 70%) were studied for 12 weeks. Patients were allocated to two groups: group A and group B (control group). Patients in group A were treated with breathing exercises for 20 minutes twice daily for a period of 12 weeks. Patients were trained to perform exercises at high pitch (forceful) with prolonged exhalation as compared to normal breathing. Group B was treated with meditation for 20 minutes twice daily for a period of 12 weeks. Subjective assessment, FEV1%, and Peak Expiratory Flow Rate (PEFR) were done in each case initially and after 12 weeks. After 12 weeks, group A subjects had significant improvement in symptoms, FEV1, and PEFR as compared to group B subjects. The study was concluded that breathing exercises mainly expiratory exercises, improved lung function subjectively and objectively and should be regular part of respiratory therapy.

**National Centre for Complementary and Integrative Health**, stated that deep breathing involves slow and deep inhalation through the nose, usually to a count of 10, followed by slow and complete exhalation for a similar count. The process may be repeated 5 to 10 times, several times a day.

Patients with pulmonary disease experiences that the air often becomes trapped in the lungs pushes down on the diaphragm. The neck and chest muscles must then assume an increased share of the work of breathing. This can leave the diaphragm weakened and flattened, causing it to work less efficiently. Diaphragmatic breathing is intended to help patients use the diaphragm correctly while breathing to strengthen the diaphragm, decrease the work of breathing by slowing your breathing rate, decrease oxygen demand, use less effort and energy to breathe.

**Suzane C Smeltzer (2008)** stated that, an Incentive Spirometer is a medical device used to help patients improve the functioning of their lungs. It is provided to patients who have had any surgery that might jeopardize respiratory function, particularly surgery to the lungs themselves, but also commonly to patients recovering from cardiac or other surgery involving extended time under anaesthesia and prolonged in-bed recovery. The incentive spirometer is also issued to patients recovering from pneumonia or rib damage to help minimize the chance of fluid build-up in the lungs. It can be used as well by wind instrument players, who want to improve their air flow.

The patient breathes in from the device as slowly and as deeply as possible, and then holds breath for 2–6 seconds. This provides back pressure which pops open alveoli. It is the same manoeuvre as in yawning. An indicator provides a gauge of how well the patient's lung or lungs are functioning, by indicating sustained inhalation vacuum. The patient is generally asked to do many repetitions a day while measuring his or her progress by way of the gauge.

Incentive spirometers gently exercise the lungs and aid in keeping the lungs as healthy as possible. The device helps retrain lungs how to take slow and deep breaths. Incentive spirometer helps to increase lung capacity and improves patients' ability to breathe. There are several benefits of incentive spirometry benefits. Using incentive spirometer exercises lungs, measures how well lungs fill with air and helps keep tiny air sacs (alveoli) inflated. Keeping alveoli inflated and working properly to help the lungs for exchange of oxygen and carbon dioxide more effectively.

**J Bindu et al., (2015)** conducted a quasi-experimental study on effectiveness of Respiratory Care Bundle on dyspnea among patients with respiratory problems admitted at MMIMS & R Hospital. 60 patients were selected using purposive sampling technique. The data was collected by using Modified Borg Dyspnea Scale. The data collection was done from the patients with respiratory problems. The patients were asked to perform mouth care 2 hourly, first with tooth paste and brush in the morning, mouth wash with chlorhexidine 2 times per day i.e. at 10am and 4pm and rest of the times mouth rinse with plain water every 2 hourly and incentive spirometry every 2 hourly for 7 times per day. Dyspnea was assessed using Modified Borg Dyspnea Scale before and after administration of respiratory care bundle. There was statistically significant difference between the two groups in terms of dyspnea score ($p<0.01$) after administration of respiratory care bundle concludes that respiratory Care Bundle was an effective therapy to reduce dyspnea.

Hence the researcher felt the need of evaluating the effectiveness of respiratory bundle care which includes Oral Care, Deep breathing exercises and Incentive Siporemtry on dyspnea among patients with bronchial asthma.

## STATEMENT OF THE PROBLEM:

"A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"

## OBJECTIVES:

1. To assess the pre test and post test level of dyspnea among the patients with bronchial asthma in experimental group and control group.

2. To evaluate the effectiveness of respiratory care bundle on dyspnea among the patients with bronchial asthma in the experimental group.

3. To find out the association between the post test level of dyspnea among the patients with bronchial asthma with the selected demographic variables in experimental group.

## HYPOTHESES:

$H_1$ - The mean post test level of dyspnea will be significantly lower than the pre test level of dyspnea in the experimental group.

$H_2$ - The mean post test level of dyspnea in experimental group will be significantly lower than the post test level of dyspnea in control group.

$H_3$ - There will be a significant effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma in experimental group

$H_4$ - There will be a significant association between level of dyspnea with the selected demographic variables among the patients with bronchial asthma

## OPERATIONAL DEFINITION:

## EVALUATE:

In this study, it refers to find out the efficacy of respiratory care bundle on dyspnea among the patients with bronchial asthma.

## EFFECTIVENESS:

In this study, it refers to evaluating the extent to which respiratory care bundle will reduce the level of dyspnea among the patients with bronchial asthma and is measured with modified borg's dyspnea scale.

## RESPIRATORY CARE BUNDLE:

In this study, it refers to the respiratory care which includes the combination of oral care, deep breathing exercises and incentive sprirometry, which has to perform for 30 minutes, 3 times per day for 3 consecutive days.

## DYSPNEA:

In this study, it refers to the level of breathing difficulty among patients with bronchial asthma assessed with Modified Borg dyspnea scale and categorized as No evidence of dyspnea, Mild dyspnea, Moderate dyspnea and Severe dypsnea.

## PATIENTS WITH BRONCHIAL ASTHMA:

In this study, it refers to the patients who were diagnosed with Bronchial Asthma, and seeking medical treatment in selected hospitals, Pudukkottai

## ASSUMPTION:

- Respiratory care bundle will be an effective intervention in reducing the level of dyspnea of the patients with bronchial asthma
- Respiratory care bundle can be easily practiced by the patients with bronchial asthma without having any physical distress.

- Nursing intervention for patients with bronchial asthma can be promoted by non – pharmacological interventions like respiratory care bundle.
- Patients with bronchial asthma will accept to perform the respiratory care bundle as an alternative modality to improve the level of dyspnea.

## DELIMITATION:

- The study is limited to patients with bronchial asthma without having co morbid illnesses.
- Sample size is limited to 60
- Patients aged between 31- 50 years
- The data collection period was limited to 6 weeks

## PROJECTED OUTCOME:

- The study will enable to identify the effectiveness of Respiratory care bundle on dyspnea among patients with bronchial asthma.
- Respiratory care bundle can be utilized as a Non – pharmacological intervention to reduce the level of dyspnea among patients with bronchial asthma.

# CHAPTER – II

# REVIEW OF LITERATURE

Review is a critical summary of research on a topic of interest, often prepared to put the research problem in the correct perspective or as a basic for an implementation of project.

**-Polit and Beck**

Review of literature is an essential component of the research process. It is a critical examination of publications related to topic of interest. Review should be comprehensive and elaborate. It helps to plan and conduct the study in a systematic and scientific manner.

For the present study, the related literature was reviewed and organized as following:

- Literature related to Bronchial asthma.
- Literature related to Respiratory Care Bundle.
- Literature related to effectiveness of Respiratory Care Bundle on dyspnea among patients with Bronchial Asthma.

**Literature related to Bronchial asthma.**

**WHO (2017)** facts sheet of Bronchial asthma states that between 100 and 150 million people around the globe roughly the equivalent of the population of the Russian Federation suffer from asthma and this number is rising. World-wide, deaths from this condition have reached over 180,000 annually. In India, rough estimates indicate a prevalence of between 12% and 18% among adults and have

an estimated 15-20 million asthmatics. Around 8% of the Swiss population suffers from asthma as against only 2% of 25-30 years ago. In Germany, there are an estimated 4 million asthmatics; asthma has doubled in ten years, according to the UCB Institute of Allergy in Belgium in Western Europe as a whole. In the United States, the number of asthmatics has leapt by over 60% since the early 1980s and deaths have doubled to 5,000 a year. There are about 3 million asthmatics in Japan of whom 7% have severe and 30% have moderate asthma.

**Elfaki NK et al., (2017)** conducted a descriptive, cross-sectional study to explore the common risk factors associated with asthma among Saudi adults in Najran during the period December 2016 to October 2017. 184 patients who were 18 years of age and diagnosed of definite asthma (cases), beside another 184 healthy individuals considered as control group. Questionnaire including the data such as personal, familial and indoor environmental factors were considered as potential risk factors for asthma. The mean ages for cases and controls were 21.3 and 21.7 years respectively. Each group consisted of 108 (58.7%) males, beside 76 (43.3%) females. There was no significant association between asthma occurrence, level of education and indoor plants with P-value >0.05 and family history, using sprays of insecticides or air fresheners, as well as rhinitis, active or passive smoking was significantly (P-value= 0.041 and 0.012) associated with asthma among adults in Najran. It was concluded that family history, smoking, allergic rhinitis and smoking were the most risk factors for developing asthma among Saudi adults.

**Leah Macaden et al., (2017)** conducted a study on quality of life in patients with bronchial asthma in a tertiary care setting in south India. Structured face to face interviews were conducted using standardized tools i.e. Standardized version of Juniper's Asthma Quality of Life Questionnaire and The Asthma Control Test. Global Initiative for asthma guidelines was used to classify the

patients based on severity of Asthma as intermittent, mild persistent, moderate persistent and severe persistent. 200 patients with Bronchial Asthma participated in the study. Majority were male (n=115) and rest female (n=85). 143 were married and many were graduates (n=52). The mean Quality of Life of the patients was 4.83 on 7 point scale. The average score received in Asthma Control Test was 17 against a maximum of 25. Less than half the patients (37.5% n =75) in the study were classified as having moderate Asthma. The study shows that Bronchial Asthma has an impact on the Quality of Life. The Quality of Life is greatly impaired by environmental factors. The study was concluded that, the nurses have a prime responsibility to educate these patients and facilitate improvement with their Quality of Life. Focused patient education provides an effective vehicle for increased self-management of chronic illnesses such as asthma and promotes modifications to lifestyle that are considered important in enhancing the quality of life.

**Varalakshmi et al., (2015)** conducted a study to evaluate the asthma knowledge among patients with Bronchial asthma in Government based Chest diseases Hospitals, Andhra Pradesh. Experimental Pre test-post test control group design was chosen for the study. Sample were selected and divided as experimental (n=100) and control (n=50) groups. The Pre test means between experimental (19.9) and control (18.82) groups were not much significant. There is a significant improvement in the pre test (mean 19.930; S.D 8.84)) and post test scores in the experimental group (mean 42.31, S.D 3.449). The post test means between experimental (42.31) and control groups (21.28) supports the significant enhancement in the knowledge of the experimental group after asthma education. They concluded that asthma education is an important means to equip patients with knowledge and skills required to manage the condition effectively. Adequate knowledge may further motivate patients towards behaviour modification and long term management.

**Sutapa Agrawal et al., (2015)** conducted a study regarding the occupations with an increased prevalence of self-reported asthma among adult men and women in India. Analysis is based on 64,725 men aged 15–54 years and 52,994 women aged 15–49 years who participated in India's third National Family Health Survey, 2005–2006, and reported their current occupation. The prevalence of asthma among the working population was 1.9%. The highest odds ratios for asthma were found among men in the plant and machine operators and assemblers major occupation category. Men working in occupation subcategories of machine operators and assemblers and mining, construction, manufacturing and transport were at the highest risk of asthma. Reduced odds of asthma prevalence in men were observed among extraction and building workers. Among women none of the occupation categories or subcategories was found significant for asthma risk. Men and women employed in high-risk occupations were not at a higher risk of asthma when compared with those in low-risk occupations. This large population-based, nationally representative cross-sectional study has confirmed findings from high income countries showing high prevalence of asthma in men in a number of occupational categories and subcategories; however, with no evidence of increased risks for women in the same occupations.

**Swati Kambli (2014)** conducted a cross-sectional survey on patient's knowledge regarding diagnosis and treatment of asthma in Dr. D.Y Patil hospital and research centre, Nerul, Navi Mumbai. 50 consecutive patients of bronchial asthma attending in and outpatient services from the hospital were interviewed using questionnaire regarding pathology, key history points, risk factors, diagnosis, and management of asthma to determine how well informed they are about their disease. Majority of the patients had wrong concepts about aetiology of disease management, inhaled therapy, immunotherapy and the prognosis of

asthma. Finally concluded that sincere and sustained efforts are required to impart health education to the patients and help them to participate in the self-management plans for asthma.

**Literature related to respiratory care bundle.**

**Preethi R (2017)** conducted a study to compare the effect of Active cycle breathing technique along with Spirometry and active cycle breathing technique along with Acapella in patients with moderate chronic obstructive pulmonary disease at KG Hospital, Coimbatore. 40 patients with moderate COPD divided into 2 groups, 20 patients in each group were participated. Group A subjects underwent treatment using Active cycle breathing technique along with Spirometry. Group B subjects underwent treatment using Active cycle breathing technique along with Acapella. The peak expiratory rate was measured using peak expiratory flow meter and Rate of perceived exertion was measured using Modified Borg's scale. The study was concluded that based on this statistical analysis, both group A and group B showed less significant difference in peak expiratory flow rate and Perceived exertion rate which shows that both Active cycle breathing technique along with Spirometry and active cycle breathing technique along with Acapella has similar effect in improving peak expiratory flow rate and perceived exertion rate.

**Dipti Agarwal (2017)**conducted a study to assess the efficacy of additional breathing exercises over improvement in health impairment due to asthma assessed using St. George's Respiratory Questionnaire. 34 among 60 stable asthma patients receives optimal treatment for 3 months and performed seven breathing exercises under supervision for 3 months in addition to their regular medications. The mean age was 25.45 years. Their baseline spirometric values were as Forced expiratory volume in 1 s - 2.492 L and peak expiratory

flow rate 283.82 L/min. This reduction was statistically highly significant ($P < 0.001$). The study was concluded that the breathing exercises significantly decreased all component scores of SGRQ, signifying a global improvement in health impairment due to asthma; this improvement was in addition to that was achieved with optimal asthma therapy with breathing exercises and medications.

**Susila .C, et al., (2017)** conducted a study to analyze the effectiveness of Incentive Spirometry on respiratory status among post operative patients subjected to major abdominal surgery. True experimental design was adopted & 60 samples were selected by simple random technique at Billroth Hospitals. The level of respiratory status was assessed by using incentive spirometry among abdominal post operative patients at ICU and Post Operative Wards. The major findings of the study shows that, the post test level of respiratory status was maximum of 73.33% had good score and 26.67% had excellent score in experimental group. The study concluded that the incentive spirometry was found to be effective & there was a significant difference in the respiratory status among post operative patients. There was no significant relationship found between the post test respiratory status with selected demographic variables.

**Glory Joy. A (2016)** conducted a study to evaluate the effectiveness of pursed- lip breathing exercise in reduction of dyspnea among chronic obstructive pulmonary disease patients in selected hospitals of kanyakumari district. Quasi experimental pre and post test control group design was used and the formal consent was obtained from Government Hospital, Thuckalay and 60 samples were selected using purposive sampling technique. Dyspnea assessment scale is used to evaluate pre and post test score of dyspnea. The findings concluded that among experimental group the mean pre test score was 2.7 with standard deviation with 0.7. The mean post test was 1.6 with standard deviation 0.4. The

mean difference was 1.1. The obtained‘t’ value was 13.78, where as the table value was 2.04. It was significant at p> 0.05 level. The study was concluded that pursed lip breathing exercise was very much effective and beneficial in reducing dyspnea among chronic obstructive pulmonary disease patient.

**Adlin Prabha. P R (2016)** conducted a quasi experimental study on effectiveness of interventional package on pulmonary functional parameters among patients with chronic obstructive pulmonary disease admitted in Sree Mookambika Medical College Hospital, Kulasekharam. Purposive sampling technique was used to obtain a sample of 60 COPD patients. Pre test and post test assessment was done by using pulmonary functional parameters. Interventional package containing educational phase was provided for 15-20 minutes daily and deep breathing exercises were administered 2 cycles per day for 7 days to the experimental group whereas control group was not given any intervention. Post test was conducted after intervention both experimental and control group on day 7. The t value was found to be t=28.45, df = 59, P<0.05. The study also shows that there is an association between age, history of smoking, family history. The study reveals that there was an improvement in the pulmonary functional parameters after intervention and concluded that interventional package was found to be an effective non pharmacological therapy to improve lung function.

**Latha. R (2015)** conducted a study to evaluate the effectiveness of Pursed Lip-Breathing Exercise on breathing pattern among patients with Chronic Obstructive Pulmonary Disease in Medical Ward, Government Rajaji hospital, Madurai. Study conducted with Pre experimental –one group pre test post test research design with 100 samples selected in consecutive sampling technique at Medical Ward**.** Pursed-Lip Breathing Exercise for 3minutes, 3 times day for about 10 days was given to the subjects. There is significance difference between

the pre and post test mean score (150.14 - 171.32). Findings suggest that the Pursed Lip Breathing Exercise can be practice regularly by patients with Chronic Obstructive Pulmonary Disease to improve the breathing pattern.

**Sema Savci (2015)** conducted a study to evaluate the efficacy of incentive spirometer (IS) and active cycle of breathing techniques (ACBT) following coronary artery bypass graft surgery. Sixty male patients were included in this prospective randomized study. Thirty patients underwent ACBT and 30 patients underwent IS combined with mobilization. Patients were evaluated using pulmonary function tests, arterial blood gases, 6-minute walk test (6MWT), chest radiography, and a 10-cm visual analogue scale for pain perception. Fifth day post-operatively, pulmonary function variables were similarly but significantly decreased in both groups compared to pre-operative values (vital capacity decreased 15% and 18% in ACBT and IS, respectively, $p<0.05$). First day post-operatively, there was significant increase in oxygen saturation after the treatments in both groups. Incidence of atelectasis and pain perception was similar between the groups ($p>0.05$). The study was concluded that both treatments improved arterial oxygenation from the first day post-operatively. After a 5-day treatment, functional capacity was well preserved with the usage of ACBT or IS. Both methods had similar effects on the rate of atelectasis, pulmonary function, and pain perception.

**Tatiana Rondinel et al., (2014)** conducted a randomized controlled trial on efficacy of combination of incentive spirometry and expiratory positive airway pressure on exercise tolerance (six-minute walk test - 6MWT), lung function (by spirometry), asthma control (Asthma Control Questionnaire - ACQ) and quality of life (Asthma Quality of Life Questionnaire - AQLQ) in patients with severe asthma. Patients were randomized into two groups: IS + EPAP

(n = 8) and control (n = 6). The IS + EPAP group performed breathing exercises at home, twice daily for 20 min, over a period of 5 weeks. There was no significant difference in spirometric variables and in the distance walked in the 6MWT in both groups. However, the IS + EPAP group showed an improvement in asthma control ($p = 0.002$) and quality of life ($p = 0.02$). These findings demonstrate that the IS + EPAP protocol, when performed at home, provides an improvement in asthma control and quality of life for patients with severe asthma when evaluated by ACQ and AQLQ, respectively.

**Joanne Lamar (2013)** studies the relationship of Respiratory Care Bundle with Incentive Spirometry to Reduced Pulmonary Complications in a Medical General Practice Unit. In the 6-month period before implementation of the respiratory bundle such as nurse - prompted incentive spirometry for independent patients and nurse administered oral care, head-of-bed elevation, and body repositioning for dependent patients. Transfer calls for respiratory reasons decreased by 13% during the 12-month intervention period in the study General Practice Unit, while calls in the control General Practice Unit increased by 10% over the same period. Statistical analysis involved computation of chi-square for total transfer calls for respiratory reasons based on total patient admissions for each of the two General Practice Units during the 12-month intervention period. A statistically significant reduction in transfer calls occurred for the study General Practice Unit ($p<0.001$). Among General Practice Unit patients, 74% were classified as independent utilizing incentive spirometry. Statistics were equated by comparing the two units on RRT calls per 100 patients on each unit. The study was concluded that the initial goal of reducing transfers to the ICU subsequently was disseminated to all general practice units as part of the hourly rounding routine. General Practice Unit nursing staff achieved his satisfaction of

contribution to improve patient care by embracing new ideas. Such small changes can create substantial impact on patient care.

**Thomas M (2012)** conducted a study on 33 adult patients between the ages of 17 to 65 years. Patients were randomized into one group who were taught diaphragmatic breathing exercises; control group was given a 60 minute group session on asthma education by a nurse. Outcome measures were assessed with AQLQ, Nijmegen questionnaire and changes in medication dosage. The Breathing retraining group showed statistically significant improvement in the overall AQLQ scores (p=0.018), symptoms (p= 0.04), activities (p=0.007) and environment domains (p=0.018) after one month of intervention when compared to the control group. After 6 months of intervention, there was significant improvement only in the activities domain of the AQLQ when compared to the control group but a strong trend towards improvements in the other outcomes was recorded. Where the Nijmegen score was concerned, there was reduction in the score in the intervention group at 1 and 6 months but a statistically significant difference was seen only after 6 months. In case of the inhaled corticosteroids and bronchodilator medication there were no significant changes in either of the 2 groups. The p value was 0.49 in the control group and 0.17 in the intervention group. The study was concluded that the diaphragmatic breathing exercises has reduces the level of dyspnea, improvement in the quality of life and the activity domains also.

**Bipin Puneeth , et al., (2012 )** conducted a study to know and compare the effectiveness of ACBT and Postural drainage techniques as a means of treatments in patients with bronchiectasis. It was a Randomized experimental study with 30 subjects who satisfied the inclusion criteria with a mean age group of 44 were selected for the study. All the subjects were explained about the procedures and need of the study. 15 subjects were randomly assigned under Postural Drainage group and 15 were randomly assigned under ACBT group. Pre and Post evaluation were done with FVC, FEV1, PEFR and SPO2 by using

Pulmonary Function Test and Pulse Oxymetry. Very high significant result was shown in efficacy of ACBT and Postural Drainage in improving FVC, FEV1, PEFR and SPO2. ACBT found to have very high significance in the efficacy compared to postural drainage with P< 0.05 in the management of patients with Bronchiectais. Even though both Postural drainage and ACBT have significant effect in clearing airways and thereby improving pulmonary function in bronchiectasis, active cycle of breathing technique has a better effect in clearing the airways than postural drainage and thereby improving pulmonary function in patients with bronchiectasis.

**Uma Maheswari (2012)** conducted a study to assess the effectiveness of deep breathing exercise and face mask on the peak expiratory flow rate and respiratory problems among cotton mill workers. One group pre and post design was used, was conducted in a selected cotton mill worker in Rajapalayam, Coimbatore. Using a purposive sampling method 50 samples was selected. Peak expiratory flow rate was measured using peak expiratory flow meter and self-reported respiratory problems were assessed by check list. The deep breathing exercise was taught to the workers and they carried out the deep breathing exercise every day for 20 minutes in the morning for 30 days in the presence of investigator. After intervention on 15th and 30th day majority of the samples had reduction from these problems (Nasal itching, obstruction of nasal passages and sore throat). There was a significant difference in the mean score of the peak expiratory flow rate before and after intervention (t value = 11.71 & 15.66, df = 49, $p \leq 0.05$) on 15th day and 30th day. There was a significant difference in the mean score of respiratory problems before and after intervention (t value = 8.57 and 32.17, df = 49, $p \leq 0.05$) on 15th and 30th day. The findings of the study concluded that deep breathing exercise and wearing face mask were quite beneficial used to improve the peak expiratory flow rate and reduce the respiratory problems.

**Beula Angel S (2011)** conducted a study to evaluate the effectiveness of chest physiotherapy and incentive spirometry on postoperative respiratory status and respiratory complications among patients undergoing abdominal surgery at Government Rajaji Hospital, Madurai. Only control group non-equivalent quasi experimental design was used. 30 patients randomly assigned to control group and another 30 to the experimental group. Convenient sampling was followed for this study. The tool used for data collection was demographic profile, observational checklist to assess respiratory status and respiratory complications and a scoring procedure was also developed. The postoperative respiratory status of the experimental group who had chest physiotherapy and incentive spirometry was significantly higher than the control group. ('t' value on fourth postoperative day was 5.59). The respiratory complications of the experimental group who had chest physiotherapy and incentive spirometry were lesser than the control group. ('t' value on fifth postoperative day was 2.71). The result of the study implies that the chest physiotherapy and incentive spirometry was very effective in patients who had undergone abdominal surgery.

**Literature related to effectiveness of respiratory care bundle on dyspnea among asthma patients**

**Anand L (2017)** conducted a comparative study to determine the effectiveness of Pursed lip breathing exercise and Deep breathing exercise and to compare the effectiveness of these exercises among asthmatics at Urban Health Centre, Chidambaram, Annamalai University. 63 asthmatic subjects were recruited by convenient sampling. Cluster randomization technique was used to assign the subjects in such a way that those attending OPD clinic during the $1^{st}$ week, $3^{rd}$ week, and $5^{th}$ week of data collection period to control group, experimental group – 1 and experimental group – 2. The participants of the experimental group – 1 and experimental group – 2 received PLBE training with instruction and DBE training with instruction respectively for 30 minutes /

session, 2 session / day for 10 days. Modified Borg dyspnea score, Peak Expiratory Flow Rate and Respiratory Rate were measured before and after the intervention. The results showed that the PLBE and DBE groups showed significant effectiveness in reducing modified Borg score and improving PEFR than the control group. The PLBE group and DBE group showed comparable degree of effectiveness in improving PEFR. There was no significant difference in RR between the PLBE, DBE and control groups.

**Kalaiselvi (2016)** conducted a quasi experimental study on effectiveness of Deep Breathing Exercises with Incentive Spirometry on Dyspnea among Patients with Bronchial Asthma admitted at Government Medical college Hospital, Karur. 60 patients were selected using purposive sampling technique. The data was collected by using Modified Borg Dyspnea Scale. The patients were asked to perform both Deep Breathing Exercises with Incentive Spirometry for 30 minutes. Level of dyspnea was assessed using Modified Borg Dyspnea Scale before and after administration of treatment. There was statistically significant difference between the two groups in terms of dyspnea score ($p=0.01$) after administration of Deep Breathing Exercises with Incentive Spirometry, and the study was concluded that Deep Breathing Exercises with Incentive Spirometry was an effective therapy to reduce level of dyspnea among patients with Bronchial asthma.

**Ramani (2015)** conducted a study to evaluate the effectiveness of nursing care on patients with Bronchial asthma in Kancheepuram Head Quarters Hospital. The descriptive research design was used and 10 samples were selected by using convenient sampling technique was used. The instruments used in this study were demographic variable performa and rating scale, observational checklist questionnaire. From the assessment of patient with Bronchial asthma showed that 2(20%) is were delayed health condition an none of them in good

health condition from the evaluation of patients with Bronchial asthma after comprehensive nursing care as per protocol showed that majority 9(90%) patients with Bronchial asthma are in good health condition. There is statistically $p<0.05$ significantly improvement in health status after the comprehensive nursing intervention for patients with Bronchial asthma

**Girodo et al., (2013)** conducted a quasi experimental study among asthmatic clients to evaluate the effectiveness of Deep Diaphragmatic Breathing Exercise with pursed lip breathing exercise. Sixty-seven asthmatic adults randomly assigned as experimental and control group. The deep diaphragmatic breathing training with pursed lip breathing exercise provided as a 16-week program. Deep diaphragmatic and pursed lip breathing exercise training resulted in significant reductions in medication use and in the intensity of asthmatic symptoms. A follow-up at two months found many patients had returned to earlier medication levels and sedentary habits. They concluded that a strengthened musculature can replace the need for a physical aid in this respiratory rehabilitation; though adherence to its use may require individually-tailored encouragement.

## CONCLUSION:

The above review of literature shows that the prevalence of asthma is high in worldwide and respiratory care bundle is very effective nursing care to reduce the level of dyspnea among the patients with Bronchial asthma.

# CONCEPTUAL FRAMEWORK

This study is based on **"J.M. KENNY'S OPEN SYSTEM MODEL-1999".** All the living system are open, in this there is continuous exchange of matter, energy and information. Open system has changing degree of interaction with the environment from which the system receives input and gives back output in the form of matter, energy and information.

The main concepts of open system model are input, throughput, output and feedback.

The study was undertaken to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma.

## INPUT:

Input refers to the matter, energy and information from the environment. In this present study the environment refers to selected hospitals, pudukkottai and the collection of demographic variables from the samples such as age, sex, marital status, religion, educational status, occupation , family income per month, duration of illness, family history of respiratory diseases , type of treatment taken for respiratory diseases, smoking habits, habit of doing physical exercises, and previous exposure to incidental education regarding breathing exercises in experimental group. The Pre test assessment of level of dyspnea was assessed with Modified Borg's Dyspnea Scale.

## THROUGHPUT:

Through put refers to the matter, energy and information are continuously processed throughput the system which is also called complex transformation

known as throughput process is used for input. In this present study the throughput refers to administration of respiratory care bundle on dyspnea among patients with bronchial asthma.

**OUTPUT:**

After processing the input and throughput, the system returns to the output matter, energy and information in an altered state. In the present study the output refers to significant reduction in the level of dyspnea among experimental group and no significant changes in the control group.

**FEEDBACK:**

Feedback refers to environmental responses to the systems. Output used by the system in adjustment, correction and accommodation to the interaction with the environment. In the present study the effectiveness of respiratory care bundle as an output process, which would show possible reduction in the level of dyspnea among patients with bronchial asthma. The output was categorized under the four grading such as no evidence of dyspnea, mild dyspnea, moderate dyspnea and sever dyspnea. Samples with mild, moderate and severe dyspnea will receives intervention again and post test will conducted again after the completion of prescribed interventional period.

The model Kenny's open system, the best suited for this study which was undertaken to determine the effectiveness of respiratory care bundle among patients with bronchial asthma.

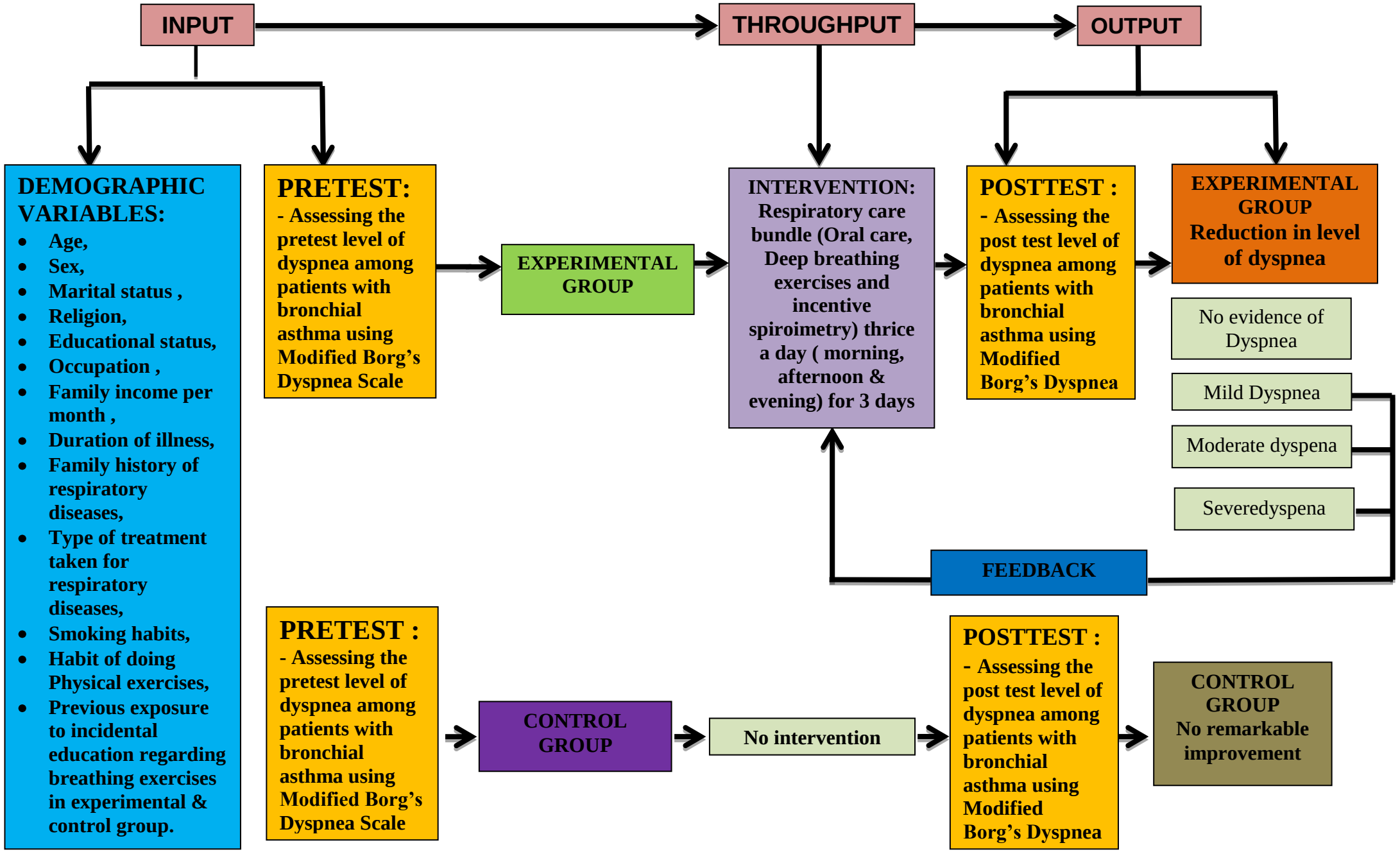




**Fig.1: CONCEPTUAL FRAMEWORK - MODIFIED KENNY'S OPEN SYSTEM MODEL (1999)**

# CHAPTER III

# METHODOLOGY

The methodology of research indicate the general pattern of organizing, the procedure for gathering valid and reliable data for the problem under investigation

**- Polit and Beck**

This chapter describes the methodology followed to evaluate the effectiveness of Respiratory care bundle on dyspnea among patients with bronchial asthma.

This phase of the study included research approach, design, the setting population, sample size, sampling technique, inclusive, exclusive criteria for selection variable, description of tools, validity and reliability of tool, data collection and plan for data analysis.

## RESEARCH APPROACH

Research approach is a systematic, controlled, empirical, and critical investigation of natural phenomenon guided by theory and hypothesis about the presumed relations among such phenomenon.

A Quantitative approach was adopted by the researcher to evaluate the effectiveness of Respiratory care bundle on dyspnea among patients with bronchial asthma.

## RESEARCH DESIGN

Research design is a blue print to conduct a study which involves the description of research approach, study setting, sampling size, sampling

technique, tools and methods of data collection and analysis to answer specific research questions or for testing research hypothesis.

Quasi - experimental, pre test, post test control group design was adopted for this study.

| | | | |
|---|---|---|---|
| **E** | **$O_1$** | **X** | **$O_2$** |
| **C** | **$O_1$** | | **$O_2$** |

E - Experimental group

C - Control group

O1 –Assessment of Pretest level of dyspnea in the experimental group and control group

O2 –Assessment of Posttest level of dyspnea in the experimental group and control group

X - Respiratory care bundle

## VARIABLE:

**INDEPENDENT VARIABLE:** Respiratory care bundle

**DEPENDENT VARIABLE:** Level of dyspnea among patients with bronchial asthma.

## SETTINGS

The study was conducted in Muthumeenakshi Multispecialty Hospital and Team Specialty Hospital, Pudukkottai .

The distance between Muthumeenakshi Hospital and college was 6.4 km, the hospital has 150 beds. Monthly average inpatients were diagnosed with bronchial asthma is 100-150 and Outpatients of 490-580.

Team specialty hospital is a 100 bedded multi-specialty hospital which is 6.2 km far from college and the monthly average inpatients census is 150-210 and outpatients of average 600.

The reasons for selecting these hospitals were the availability of samples, facility for the study, and expectation of cooperation from the hospital authority and patients for collection of data.

**POPULATION:**

The population for the study was the patients with bronchial asthma.

**TARGET POPULATION:**

The target population of the study was patients with bronchial asthma.

**ACCESSIBLE POPULATION:**

The accessible population of the study was the patients with bronchial asthma who are all admitted in selected hospitals, Pudukkottai.

**SAMPLE SIZE:**

60 samples, (30 samples in Experimental group and 30 samples in Control group).

**SAMPLING TECHNIQUES:**

Non Probability Purposive sampling technique was adopted.

## CRITERIA FOR SAMPLE SELECTION:

## INCLUSION CRITERIA:

Patients who were

- inpatient diagnosed with Bronchial Asthma.
- on regular treatment.
- between the age of 31 – 50 years.
- available at the time of data collection.
- willing to participate in the study.

## EXCLUSION CRITERIA:

Patients who were

- with cardiac, renal diseases, recent surgeries or any co-morbid illness.
- performing regular breathing exercise or yoga.
- participated in the pulmonary rehabilitation program within 6 months.
- taking alternative medicines like Siddha, Unani, Ayurveda etc.

## DESCRIPTION OF TOOL:

The research tool was developed by doing extensive literature review. The primary and secondary sources of literature were reviewed to develop an appropriate tool. Experts from various fields including 5 Nursing experts, 1 expert from Pulmonology, one in the field of Physiotherapy, 1 Bio-Statistician

and one language expert have given their opinion and valuable suggestions to develop the research tool. The data collection tool consisted of two sections. Both subjective and objective measures were incorporated in the research tool.

## SECTION A - DEMOGRAPHIC VARIABLES:

It consists of demographic data like age, sex, marital status, religion, educational status, occupation, monthly income, duration of illness, family history of respiratory diseases, type of treatment taken for respiratory diseases, smoking habits, history of doing physical exercises, and previous exposure to the incidental education regarding breathing exercises.

## SECTION B – ASSESSMENT OF LEVEL OF DYSPNEA:

Modified Borg's Dyspnea scale was used to assess the level of dyspnea among patients with Bronchial asthma. Modified Borg's Dyspnea Scale is a 10 point scale which was categorized under four grading such as No evidence of dyspnea, Mild dyspnea, Moderate dyspnea and severe dyspnea based up on the subjective description of level of dyspnea described by patient.

**SCORE KEY**

| SCORE | GRADING |
|---|---|
| 4 | No evidence of Dyspnea |
| 3 | Mild Dyspnea |
| 2 | Moderate Dyspnea |
| 1 | Severe Dyspnea |

## VALIDITY AND RELABILITY OF THE TOOL:

## VALIDITY:

The validity of the tool is established by consultation with the guide and five experts in the field of Medical Surgical Nursing, one pulmonologist, one in the field of Physiotherapy, one in the field of Statistics and one language expert. The experts were requested to check the relevance of the tool. The tool was modified according to the suggestions and recommendations given by them.

## RELIABILITY:

Reliability of an instrument is the degree of consistency measures that attribute it is supposed to be measured. Reliability of the tool was estimated in the study subjects by using test – retest method. Reliability was computed and it is found to be 1, which was highly positively correlated. Hence the tool was found to be reliable and feasible for the study.

## PILOT STUDY:

Pilot study was conducted at Pudugai Star Hospital, and Bewell Hospital, Pudukottai for a period of one week. A total 6 sample of patients with bronchial asthma were selected (3 samples in experimental group and 3 samples in control group). The sample was selected by purposive sampling technique. Informed Oral consent was obtained and demographic variables were collected from the patients with bronchial asthma aged between 31- 50 yrs, the level of dyspnea was assessed with modified borg's dyspnea scale and respiratory care bundle was given 3 times a day for about 3 days then post test was done, the feasibility and practicability of the tool was assessed. The data collection was amenable to statistical analysis and thus the study was found to be feasible. There was no modification done in the study and the pilot study samples were excluded from the main sample for the data collection.

## PROCEDURE FOR DATA COLLECTION:

The period of data collection was about 6 weeks. A formal written permission was obtained from Managing Directors of Muthumeenakshi Multispecialty hospital and Team Specialty hospital to carry out the main study. Samples were selected with Non-Probability purposive sampling technique. On selection of the samples, self-introduction was given. Informed oral consent was obtained from the samples. During the data collection procedure, the subject was asked to sit in the relaxed manner. In pretest, the level of dyspnea was assessed with Modified Borg's Dyspnea Scale. After the completion of pre test, patients were instructed to brush with tooth paste in the morning and evening , rinse the mouth with salt water and followed by plain water before doing deep breathing exercises and incentive spirometry for 3 times per day, Morning, Afternoon, Evening for 3 consecutive days . Deep breathing exercises followed by Incentive spirometry were given for 10 minutes each. The post test was conducted on the third day with the Modified Borg's dyspnea scale. The control group received the routine medical and nursing care. The participants of the control group were informed that their respiratory status would be assessed to determine the severity of illness.

## ETHICAL CONSIDERATION:

The dissertation committee prior to the pilot study approved the research study. Prior permission was obtained from the Principal, Managing Directors of respective hospitals. The oral consent was obtained from each participant of study before starting data collection. Assurance was given to the subjects that confidentiality will be maintained.

## PLAN FOR DATA ANALYSIS:

The collected data was arranged and tabulated to represent the finding of the study. Both descriptive and inferential statistical methods was used for analyzing the data, planned to describe the data as percentage, mean and standard deviation and those were used to analyze the demographic variables. For the distribution of demographic data, simple percentage was used. Unpaired‘t’ test was used to compare the effectiveness of the interventions among experimental and control group. Chi-Square test was used to find out the association between demographic variables and level of dyspnea and after the administration of Respiratory care bundle.

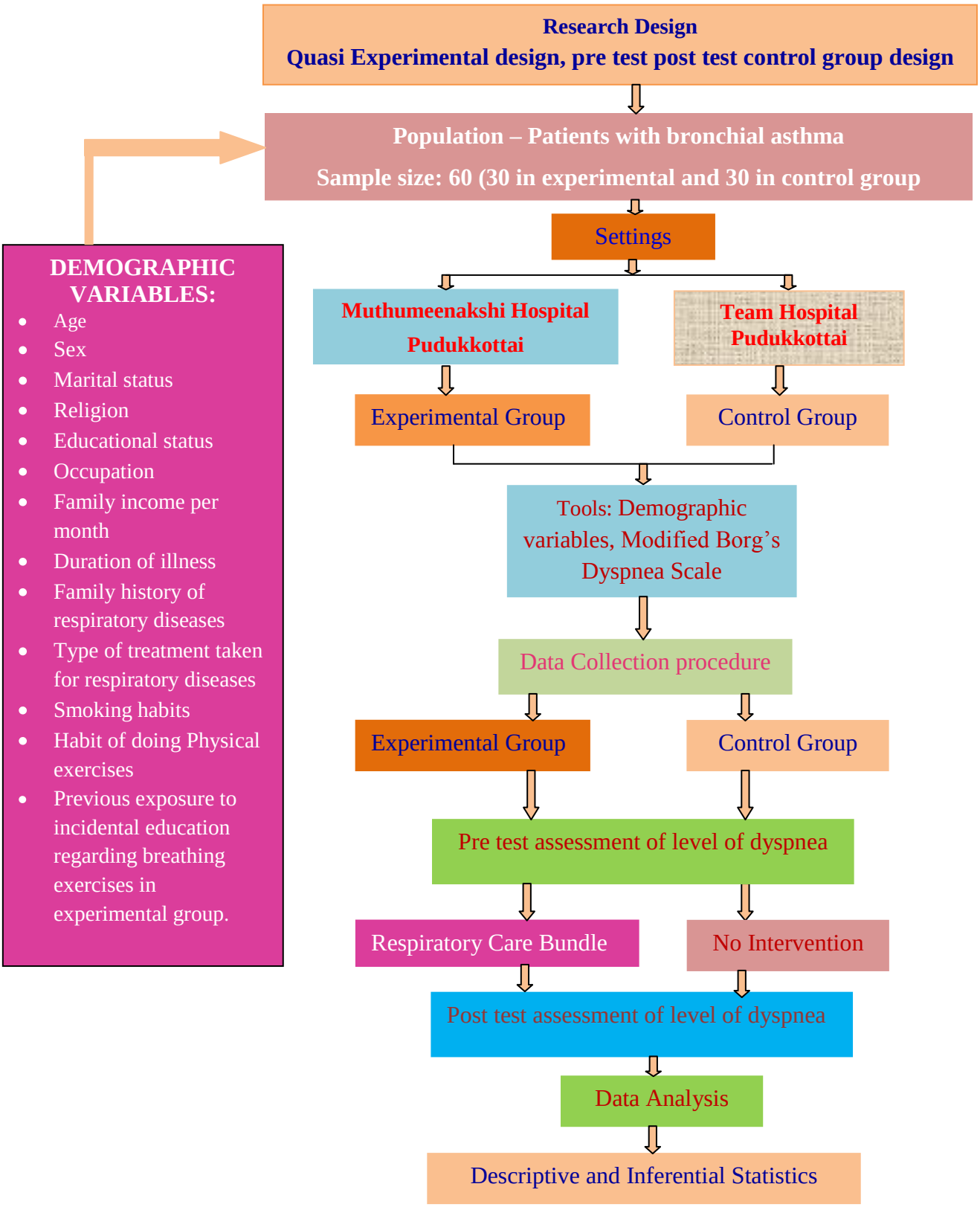


**FIG:2 SCHEMATIC REPRESENTATION OF THE RESEARCH METHODOLOGY**

# CHAPTER – IV

# DATA ANALYSIS AND INTERPRETATION

Analysis is a process of organizing and synthesizing data so as to answer research questions and test hypothesis

**- Polit and Beck**

This chapter deals with the analysis and interpretation of the data collected from 60 patients diagnosed with bronchial asthma (30 samples in Experimental and 30 samples in Control group) in selected hospitals, Pudukkottai.

The data collected was organized, tabulated and analyzed according to the objectives. The findings based on the descriptive and inferential statistical analysis are presented under the following sections.

## OBJECTIVES

1. To assess the pre test and post test level of dyspnea among the patients with bronchial asthma in experimental group and control group.
2. To evaluate the effectiveness of respiratory care bundle on dyspnea among the patients with bronchial asthma in the experimental group.
3. To find out the association between the post test level of dyspnea among patients with bronchial asthma with their selected demographic variables in experimental group.

## ORGANIZATION OF DATA

**Section A:** Description of demographic variables of the patients with bronchial asthma in experimental and control group.

**Section B:** Assessment of pre test and post test level of dyspnea among patients with bronchial asthma in experimental and control group.

**Section C:** Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in experimental and control group.

**Section D:** Association of pos test level of dyspnea among patients with bronchial asthma with the selected demographic variables in experimental group.

## SECTION A: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE PATIENTS WITH BRONCHIAL ASTHMA IN EXPERIMENTAL AND CONTROL GROUP.

**Table 1: Frequency and percentage distribution of demographic variables of the patients with bronchial asthma in experimental and control group.**

**N=60 (30+30)**

| Demographic Variables | Experimental Group | | Control Group | |
|---|---|---|---|---|
| | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) |
| **Age in years** | | | | |
| 31-35 years | 4 | 13.33 | 3 | 10.00 |
| 36-40years | 5 | 16.67 | 7 | 23.33 |
| 41-45years | 11 | 36.67 | 13 | 43.33 |
| 46-50years | 10 | 33.33 | 7 | 23.33 |
| **Gender** | | | | |
| Male | 18 | 60.00 | 21 | 70.00 |
| Female | 12 | 40.00 | 9 | 30.00 |
| **Marital status** | | | | |
| Married | 29 | 96.7 | 30 | 100.0 |
| Unmarried | 0 | 0.00 | 0 | 0.00 |
| Separated | 1 | 3.3 | 0 | 0.00 |
| Widower/ Widow | 0 | 0.00 | 0 | 0.00 |
| **Religion** | | | | |
| Hindu | 16 | 53.33 | 19 | 63.33 |
| Christian | 9 | 30.00 | 7 | 23.33 |
| Muslim | 5 | 16.67 | 4 | 13.33 |
| Others | 0 | 0.00 | 0 | 0.00 |

| | | | | |
|---|---|---|---|---|
| **Educational status** | | | | |
| No Formal Education | 9 | 30.00 | 11 | 36.67 |
| Primary Education | 14 | 46.67 | 10 | 33.33 |
| High School & Higher Secondary | 5 | 16.67 | 4 | 13.33 |
| Graduate | 2 | 6.66 | 5 | 16.67 |
| **Occupation** | | | | |
| Un employed | 6 | 20.00 | 3 | 10.00 |
| Self-employed | 7 | 23.33 | 16 | 53.33 |
| Private Employee | 13 | 43.33 | 9 | 30.00 |
| Government employee | 4 | 13.33 | 2 | 6.67 |
| **Monthly Income** | | | | |
| Less thanRs.5000 | 15 | 50.00 | 13 | 43.33 |
| Rs.5001-Rs.10000 | 6 | 20.00 | 9 | 30.00 |
| Rs.10001-Rs.15000 | 7 | 23.33 | 5 | 16.67 |
| More thanRs.15000 | 2 | 6.67 | 3 | 10.00 |
| **Duration of illness** | | | | |
| Less than 6 months | 16 | 53.33 | 18 | 60.00 |
| 6 months -1 year | 9 | 30.00 | 9 | 30.00 |
| More than 1 year | 5 | 16.67 | 3 | 10.00 |
| **Family history of respiratory illness** | | | | |
| Maternal | 3 | 10.00 | 4 | 13.33 |
| Paternal | 2 | 6.67 | 2 | 6.67 |
| Nil Parity | 25 | 83.33 | 24 | 80.00 |
| **Type of treatment taken for respiratory illness** | | | | |
| Medications | 24 | 80.00 | 20 | 66.67 |
| Inhalers | 6 | 20.00 | 7 | 23.33 |
| Others | 0 | 0.00 | 3 | 10.00 |

| | | | | |
|---|---|---|---|---|
| **Smoking Habits** | | | | |
| Non Smoker | 12 | 40.00 | 9 | 30.00 |
| Occasionally Smokes | 14 | 46.67 | 16 | 53.33 |
| Chain Smoker | 4 | 13.33 | 5 | 16.67 |
| **History of doing Physical Exercises** | | | | |
| Regular | 2 | 6.67 | 6 | 20.0 |
| Irregular | 10 | 33.33 | 10 | 33.33 |
| Not following | 18 | 60.00 | 14 | 46.67 |
| **Previous exposure to the incidental education regarding breathing exercises** | | | | |
| Educated by Health care professional | 4 | 13.33 | 6 | 20.00 |
| Educated by allied health professionals | 9 | 30.00 | 10 | 33.33 |
| Not received any incidental education | 17 | 56.67 | 14 | 46.67 |

The table 1 reveals that in the experimental group, majority 11(36.67%) were in the age group of 41 – 45 years; 18(60%) were male; majority 16(53.3%) were Hindus; considering the educational status, majority 14(46.67%) had primary education; majority 13(43.33%) were private employees; 15(50%) had monthly income of less than Rs.5000; 16(53.33%) were suffering from illness for less than 6 months; majority 25(83.33%) had no family history of respiratory illness; majority 24(80%) were taken medications as the treatment for respiratory diseases; majority 14(46.67%) occasionally smokes; 18(60%) were not following any exercises, and17(56.7%) were doesn't received any incidental education regarding the breathing exercises .

Whereas in the control group, majority 13(43.33%) were in the age group of 41 – 45 years; 21(70 %) were male; 19(63.33%) were Hindus; majority 11(36.67%) had no formal education; 16(53.33%) were self-employees; 13(43.3%) had monthly income of less than Rs.5000; 18(60%) were suffering from illness for less than 6 months; majority 24(80%) had no family history of respiratory illness; 20(66.67%) were taking medications as the treatment for respiratory diseases; majority 16(53.33%) occasionally smokes; 15(50%) were irregularly doing exercises, and14(46.67%) were doesn't received any incidental education regarding the breathing exercises.

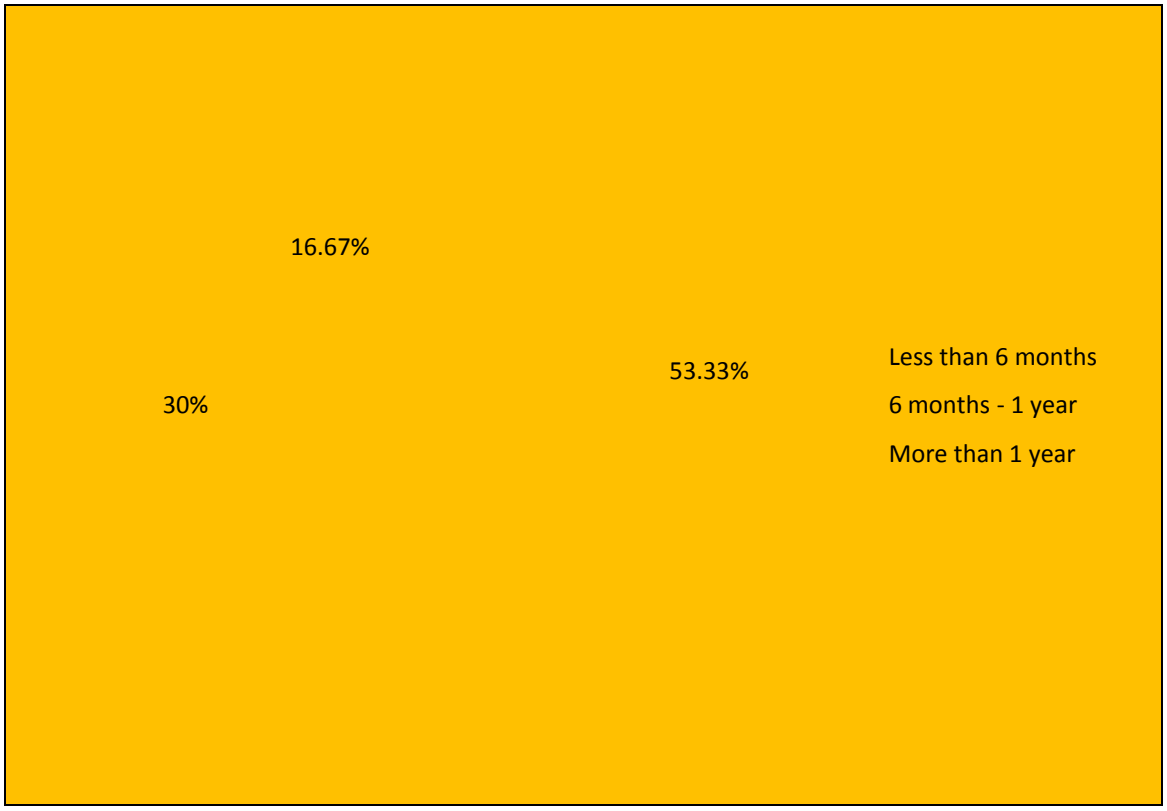


**Figure 3: Percentage distribution of duration of illness in patients with bronchial asthma in the experimental group.**

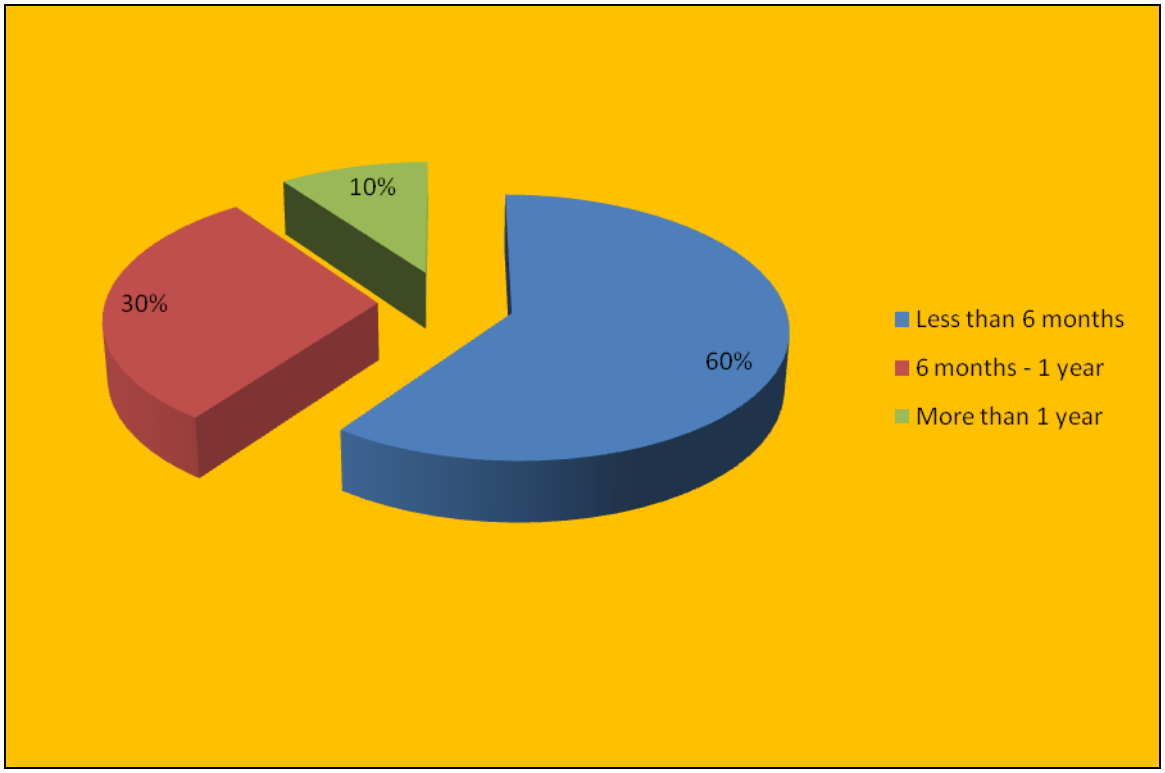


**Figure 4: Percentage distribution of duration of illness in patients with bronchial asthma in the control group.**

**SECTION B: ASSESSMENT OF PRE TEST AND POST TEST LEVEL OF DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA IN EXPERIMENTAL AND CONTROL GROUP.**

**Table 2: Frequency and Percentage distribution of pre test and post test level of dyspnea among patients with bronchial asthma in the experimental group.**

**n =30**

| Dyspnea | No Evidence of Dyspnea | | Mild Dyspnea | | Moderate Dyspnea | | Severe Dyspnea | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Pretest | 0 | 0 | 0 | 0 | 11 | 36.67 | 19 | 63.33 |
| Posttest | 4 | 13.33 | 9 | 30 | 16 | 53.33 | 1 | 3.33 |

The table 2 reveals that the percentage distribution of pretest and post test level of dyspnea in the experimental group.

The analysis of pre test level of dyspnea in experimental group, revealed that majority 19(63.33%) had severe dyspnea, and 11(36.67%) had moderate level of dyspnea.

Whereas, the post test level of dyspnea in experimental group, revealed that majority 16(53.33%) had moderate dyspnea, 9(30%) had mild level of dyspnea, 4(13.33%) had no evidence of dyspnea, and 1(3.33%) had severe dyspnea.

**Table 3: Frequency and Percentage distribution of pre test and post test level of dyspnea among patients with bronchial asthma in the control group.**

n =30

| Dyspnea | No Evidence of Dyspnea | | Mild Dyspnea | | Moderate Dyspnea | | Severe Dyspnea | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Pre test | 0 | 0 | 1 | 3.33 | 7 | 23.33 | 22 | 73.33 |
| Post test | 1 | 3.33 | 2 | 6.67 | 8 | 26.67 | 19 | 63.33 |

The table 3 reveals that the percentage distribution of pre test and post test level of dyspnea in the control group.

The analysis of pre test level of dyspnea in control group, revealed that majority 22(73.33%) had severe dyspnea, 7(23.33%) had moderate level of dyspnea and 1(3.33%) had mild level of dyspnea.

Whereas, the post test level of dyspnea in control group, revealed that majority 19(63.33%) had severe dyspnea, 8(26.67%) had moderate level of dyspnea, 2(6.67%) had mild dyspnea, and 1(3.33%) had no evidence of dyspnea.

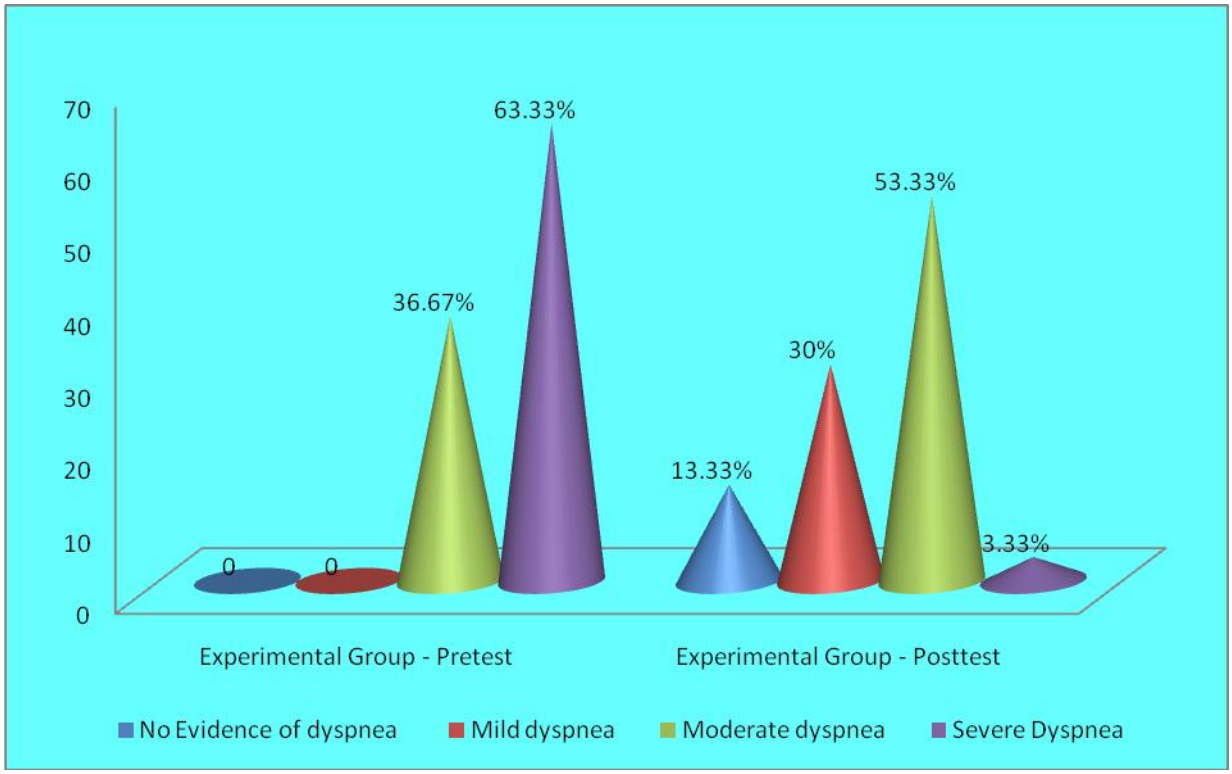


**Figure 5 : Percentage distribution of pre test and post test level of dyspnea in experimental group**

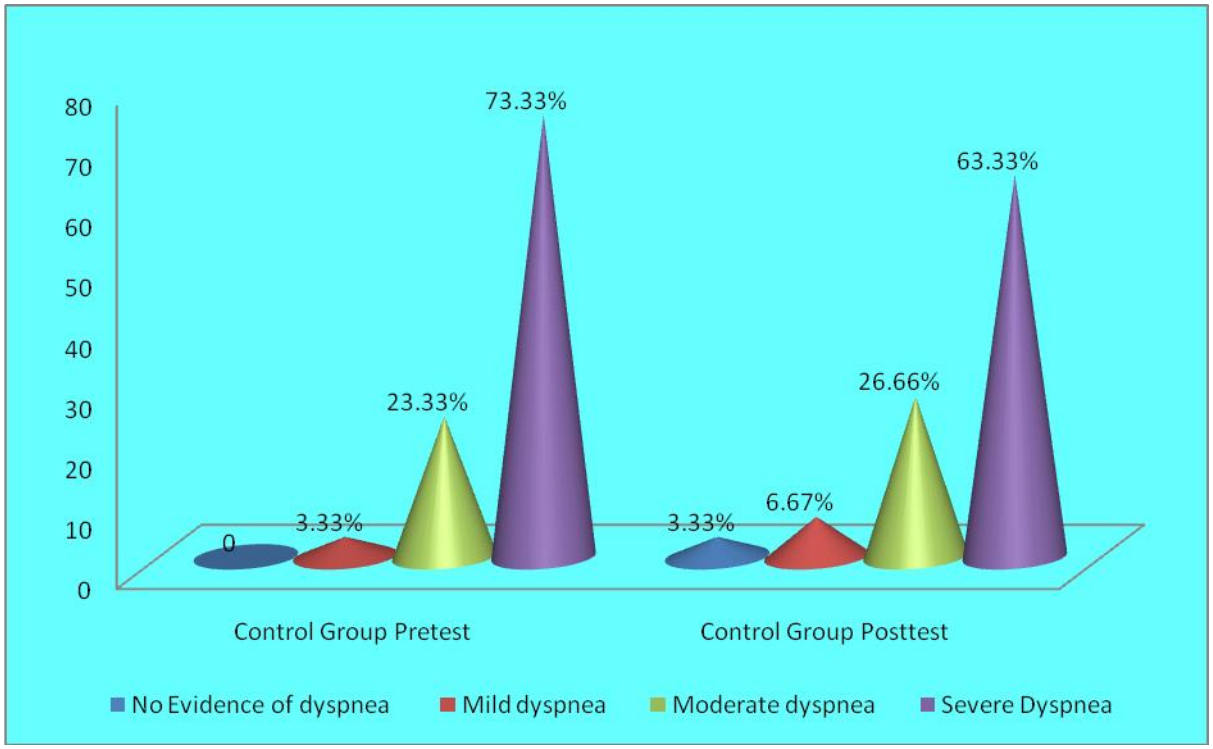


**Figure 6 : Percentage distribution of pre test and post test level of dyspnea in control group**

## SECTION C: COMPARISON OF PRE TEST AND POST TEST LEVEL OF DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA IN EXPERIMENTAL AND CONTROL GROUP.

**Table 4: Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in experimental group.**

**n=30**

| Level of Dyspnea | Mean | SD | Paired 't' value |
|---|---|---|---|
| Pre test | 1.36 | 0.482 | t = 6.926** |
| Post test | 2.5 | 0.763 | |

**p<0.05, Significant

The table 4 shows the comparison of pre test and post test level of dyspnea among patients with bronchial asthma in experimental group.

The mean pre test value of level of dyspnea was 1.36 with S.D 0.482 and the mean post test value of level of dyspnea was 2.5 with S.D 0.763

The calculated paired "t" value of 6.926 was found to be statistically significant at p<0.05 level.

This clearly shows that the provision of respiratory care bundle has reduced the post test level of dyspnea among patients with bronchial asthma in experimental group.

**Table 5: Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in control group.**

n=30

| Level of Dyspnea | Mean | SD | Paired 't' value |
|---|---|---|---|
| Pretest | 1.3 | 0.53 | t = 1.1 |
| Posttest | 1.5 | 0.86 | |

P < 0.05, Not Significant

The table 5 shows the comparison of pre test and post test level of dyspnea among patients with bronchial asthma in control group.

The mean pre test value of level of dyspnea was 1.3 with S.D 0.53 and the mean post test value of level of dyspnea was 1.5 with S.D 0.86.

The calculated paired "t" value 1.1 was not found to be statistically significant.

This clearly shows that there was no significant change in the pre test and post test level of dyspnea among patients with bronchial asthma in the control group.

**Table 6: Comparison of post test level of dyspnea among patients with bronchial asthma between the experimental and control group.**

N=60 (30+30)

| Post test | Mean | SD | Unpaired 't' value |
|---|---|---|---|
| Experimental group | 2.5 | 0.763 | t = 4.762* |
| Control group | 1.5 | 0.86 | |

*p<0.05, Significant

Table 6 shows the comparison of post test level of dyspnea between the experimental and control group.

When comparing the post test level of dyspnea between the experimental and control group, the mean post test score in the experimental group was 2.5 with S.D 0.763 and the mean post test score in the control group was 1.5 with S.D 0.86.

The calculated unpaired "t" value 4.762 was found to be statistically significant at p<0.05 level.

This clearly indicates that after the provision of respiratory care bundle, there was a significant reduction in the post test level of dyspnea among patients with bronchial asthma in experimental group than in the control group.

## SECTION D: ASSOCIATION OF POST TEST LEVEL OF DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA IN EXPERIMENTAL GROUP WITH SELECTED DEMOGRAPHIC VARIABLES.

**Table 7: Association of post test level of dyspnea among patients with bronchial asthma in experimental group with selected demographic variables.**

n = 30

| S.No | Demographic variables | No evidence of Dyspnea | | Mild Dyspnea | | Moderate Dyspnea | | Severe Dyspnea | | $\chi^2$ value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | n | % | n | % | n | % | n | % | |
| **1.** | **Age(in years)** | | | | | | | | | |
| | 31-35 years | 1 | 3.3 | 2 | 6.6 | 1 | 3.3 | 0 | 0 | 12.562 (df=9) P =0.183 NS |
| | 36-40 years | 1 | 3.3 | 2 | 6.6 | 2 | 6.6 | 0 | 0 | |
| | 41-45 years | 2 | 6.6 | 5 | 16.6 | 4 | 13.3 | 0 | 0 | |
| | 46-50 years | 0 | 0 | 6 | 0 | 9 | 30 | 1 | 3.3 | |
| **2.** | **Gender** | | | | | | | | | |
| | Male | 1 | 3.3 | 7 | 23.3 | 9 | 30 | 1 | 3.3 | 3.987 (df=3) P= 0.262 NS |
| | Female | 3 | 10 | 2 | 6.6 | 7 | 23.3 | 0 | 0 | |
| **3.** | **Marital status** | | | | | | | | | |
| | Married | 4 | 13.3 | 9 | 30 | 15 | 50 | 1 | 3.3 | 0.905 (df=9) P= 0.824 NS |
| | Unmarried | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Separated | 0 | 0 | 0 | 0 | 1 | 3.3 | 0 | 0 | |
| | Widower / Widow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **4.** | **Religion** | | | | | | | | | |
| | Hindu | 3 | 10 | 4 | 13.3 | 9 | 30 | 0 | 0 | 5.401 (df=9) P=0.5 NS |
| | Christian | 1 | 3.3 | 2 | 6.6 | 5 | 16.6 | 1 | 3.3 | |
| | Muslim | 0 | 0 | 3 | 10 | 2 | 6.6 | 0 | 0 | |
| | Others | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **5.** | **Educational status** | | | | | | | | | |
| | No formal education | 1 | 3.3 | 2 | 6.6 | 5 | 16.6 | 1 | 3.3 | 7.696 (df=9) P =0.565 NS |
| | Primary Education | 1 | 3.3 | 4 | 13.3 | 9 | 30 | 0 | 0 | |
| | High school & Higher secondary | 2 | 6.6 | 2 | 6.6 | 1 | 3.3 | 0 | 0 | |
| | Graduate | 0 | 3.3 | 1 | 3.3 | 1 | 3.3 | 0 | 0 | |
| **6.** | **Occupation** | | | | | | | | | |
| | Unemployed | 1 | 3.3 | 1 | 3.3 | 4 | 13.3 | 9 | 30 | 5.116 (df=9) P=0.814 NS |
| | Self-employee | 1 | 3.3 | 2 | 6.6 | 3 | 10 | 0 | 0 | |
| | Private employee | 1 | 3.3 | 5 | 16.6 | 7 | 23.3 | 3 | 10 | |
| | Government employee | 1 | 3.3 | 1 | 3.3 | 2 | 6.6 | 0 | 0 | |
| **7.** | **Family Monthly** | | | | | | | | | |
| | Less than Rs.5000 | 1 | 3.3 | 3 | 10 | 10 | 33.3 | 1 | 3.3 | 5.532 (df=9) P=0.785 NS |
| | 5000-10000 | 1 | 3.3 | 2 | 6.6 | 3 | 10 | 0 | 0 | |
| | 10001-15000 | 2 | 6.6 | 3 | 10 | 2 | 6.6 | 0 | 0 | |
| | More than Rs.15000 | 0 | 0 | 1 | 3.3 | 1 | 3.3 | 0 | 0 | |
| **8.** | **Duration of the illness** | | | | | | | | | |
| | Less than 6 months | 0 | 0 | 2 | 6.6 | 13 | 43.3 | 1 | 3.3 | 14.981 (df=6) P=0.02 S* |
| | 6 months -1 year | 2 | 6.6 | 5 | 16.6 | 2 | 6.6 | 0 | 0 | |
| | More than 1 year | 2 | 6.6 | 2 | 6.6 | 1 | 3.3 | 0 | 0 | |
| **9.** | **Family history of respiratory diseases** | | | | | | | | | |
| | Maternal | 0 | 0 | 1 | 3.3 | 2 | 6.6 | 0 | 0 | 1.424 (df=6) P=0.964 NS |
| | Paternal | 0 | 0 | 1 | 3.3 | 1 | 3.3 | 0 | 0 | |
| | Nil parity | 4 | 13. 3 | 7 | 23.3 | 13 | 43.3 | 1 | 3.3 | |
| **10.** | **Type of treatment taken for respiratory diseases** | | | | | | | | | |
| | Medications | 2 | 6.6 | 7 | 23.3 | 14 | 46.6 | 1 | 3.3 | 3.390 (df=4) P= 0.377 NS |
| | Inhalers | 2 | 6.6 | 2 | 6.6 | 2 | 6.6 | 0 | 0 | |
| | Others | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **11.** | **Smoking Habits** | | | | | | | | | |
| | Non Smoker | 3 | 10 | 0 | 0 | 9 | 30 | 0 | 0 | 10.737 (df=6) P= 0.1 NS |
| | Occasionally Smokes | 6 | 20 | 2 | 6.6 | 5 | 16.6 | 1 | 3.3 | |
| | Chain smoker | 0 | 0 | 0 | 0 | 2 | 6.6 | 0 | 0 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **12.** | **History of doing Physical exercises** | | | | | | | | |
| | Regular | 0 | 0 | 1 | 3.3 | 1 | 3.3 | 0 | 0 | 6.042 (df=6) P=0.42 NS |
| | Irregular | 0 | 0 | 2 | 6.6 | 8 | 26.6 | 0 | 0 | |
| | Not following | 4 | 13.3 | 6 | 20 | 7 | 23.3 | 1 | 3.3 | |
| **13.** | **Previous exposure to incidental education** | | | | | | | | |
| | Educated by health care professionals | 0 | 0 | 1 | 3.3 | 2 | 6.6 | 1 | 3.3 | 8.111 (df=6) P=0.23 NS |
| | Educated by Allied health professionals | 1 | 3.3 | 2 | 6.6 | 6 | 20 | 0 | 0 | |
| | Not received any incidental education | 3 | 10 | 6 | 20 | 8 | 26.6 | 0 | 0 | |

*P<0.05, significant, NS- Not Significant, S- Significant

The table 7 shows that the demographic variable, duration of the illness had shown statistically significant association with post test level of dyspnea at P<0.05 level and the other demographic variables were not found to be statistically significant associated with the post test level of dyspnea among patients with bronchial asthma in the experimental group.

# CHAPTER-V

# DISCUSSION

The purpose of this study was to evaluate the effectiveness of respiratory care bundle on level of dyspnea among patients with bronchial asthma at selected hospitals, pudukkottai.

This chapter discusses the major findings of the study and reviews them in terms of result from other studies.

**The first objective of the study was to assess the pre test and post test level of dyspnea among patients with bronchial asthma in experimental group and control group.**

The analysis of pre test level of dyspnea in experimental group, revealed that majority 19(63.33%) had severe dyspnea, and 11(36.66%) had moderate level of dyspnea, whereas the post test level of dyspnea in the experimental group, revealed that majority 16(53.33%) had moderate dyspnea, 9(30%) had mild level of dyspnea 4(13.33%) had no evidence of dyspnea, and 1(3.33%) had severe dyspnea.

The analysis of pretest level of dyspnea in control group, revealed that majority 22(73.33%) had severe dyspnea, 7(23.33%) had moderate level of dyspnea and 1(3.33%) had mild level of dyspnea, whereas the post test level of dyspnea in control group, revealed that majority 19(63.33%) had severe dyspnea, 8(26.66%) had moderate level of dyspnea, 2(6.66%) had mild dyspnea, and 1(3.33%) had no evidence of dyspnea.

These findings were supported by **Karthika. K (2017)** conducted an Quasi experimental study to evaluate the effectiveness of deep breathing exercise among patients with chronic obstructive pulmonary disease. 11 subjects (36.7%) had maximum level of breathing difficulty and 2 subjects (6.7%) had moderate level of breathing difficulty in the pre test, whereas 12 subjects (40%) had very very slight level of breath difficulty, and 10(33.3%) had slight breathing difficulty, level of breathing in the post test among experimental group. In control group 2 subjects (6.7%) had moderate level of breathing difficulty and 5 subjects (16.7%) had severe level of breathing difficulty in pre test, whereas 2 subjects (6.7%) had somewhat severe level of breathing difficulty and 10subjects (33.3%) had slight level of breath difficulty in the post test of control group.

The findings of the study support the investigators assumption, that there will be a significant difference in the pre test and post test level of dyspnea after the provision of respiratory care bundle. Hence the stated hypotheses 1 and 2 are accepted.

**The second objective of the study was to evaluate the effectiveness respiratory care bundle on dyspnea among patients with bronchial asthma.**

Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in experimental group revealed that, the mean pretest value of level of dyspnea was 1.36 with S.D 0.482 and the mean post test value of level of dyspnea was 2.5 with S.D 0.763. The calculated paired “t” value of 6.926 was found to be statistically significant at $p<0.05$ level. This clearly shows that the provision of respiratory care bundle has reduced the post test level of dyspnea among patients with bronchial asthma in experimental group.

Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in control group revealed that the mean pre test value of level of dyspnea was 1.3 with S.D 0.53 and the mean post test value of level of dyspnea was 1.5 with S.D 0.86. The calculated paired "t" value, 1.1 was not found to be statistically significant. This clearly shows that there was no significant change in the pre test and post test level of dyspnea among patients with bronchial asthma in the control group.

Comparison of post test level of dyspnea between the experimental and control group revealed that the mean post test score in the experimental group was 2.5 with S.D 0.763 and the mean post test score in the control group was 1.5 with S.D 0.86. The calculated unpaired "t" value 4.762 was found to be statistically significant at $p<0.05$ level.

This clearly indicates that after the provision of respiratory care bundle there was a significant reduction in the post test level of dyspnea among patients with bronchial asthma in experimental group than in the control group.

These findings were supported by **Bindu J et al., (2015)** conducted a quasi-experimental study on effectiveness of Respiratory Care Bundle on dyspnea among patients with respiratory problems admitted at MMIMS & R Hospital. Dyspnea was assessed using Modified Borg Dyspnea Scale before and after administration of respiratory care bundle. There was statistically significant difference between the two groups in terms of dyspnea score ($p<0.01$) after administration of respiratory care bundle concludes that respiratory Care Bundle was an effective therapy to reduce dyspnea.

The findings of the study support the investigators assumption, that the provision of respiratory care bundle among patients with bronchial asthma will change the level of dyspnea. Hence the stated hypothesis 3 is accepted.

**The third objective of this study was to find out the association between the post test level of dyspnea with the selected demographic variables in experimental group.**

The chi square value showed significance association between the level of dyspnea to patients with bronchial asthma. The demographic variable, duration of the illness had shown statistically significant association with post test level of dyspnea at $P<0.05$ level and the other demographic variables were not found to be statistically significant associated with the post test level of dyspnea among patients with bronchial asthma in the experimental group. Hence the stated hypothesis 4 was accepted.

# CHAPTER-VI

# SUMMARY, CONCLUSION, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter presents the summary of the study and conclusion drawn from the study findings. It classifies limitation of the study**,** implications, recommendations in different areas like nursing practice, nursing education, nursing administration, nursing research and recommendation for the further study.

## SUMMARY OF THE STUDY:

## STATEMENT OF THE PROBLEM:

"A Quasi Experimental study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, pudukkottai"

## THE FOLLOWING OBJECTIVES WERE SET FOR THE STUDY:

1. To assess the pre test and post test level of dyspnea among the patients with bronchial asthma in experimental group and control group.

2. To evaluate the effectiveness of respiratory care bundle on dyspnea among the patients with bronchial asthma in the experimental group.

3. To find out the association between the post test level of dyspnea among the patients with bronchial asthma with the selected demographic variables in experimental group.

## HYPOTHESES

$H_1$ - The mean post test level of dyspnea will be significantly lower than the pre test level of dyspnea in the experimental group.

$H_2$ - The mean post test level of dyspnea in experimental group will be significantly lower than the post test level of dyspnea in control group.

$H_3$ - There will be a significant effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma in experimental group

$H_4$ - There will be a significant association between level of dyspnea with the selected demographic variables among the patients with bronchial asthma

The conceptual model of the study was based on the **J. M. KENNY'S OPEN SYSTEM MODEL (1999).** The study was conducted by quasi experimental with pretest – post test control group design. Purposive sampling technique was used to select the study samples.

The data analyzed and interpreted in terms of objectives and research hypothesis. Descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistics (paired and unpaired "t" test and chi square test) were used.

## MAJOR FINDINGS OF THE STUDY:

1. In the experimental group, majority 11(36.67%) were in the age group of 41 – 45 years; 18(60%) were male; majority 16(53.3%) were Hindus; considering the educational status, majority 14(46.67%) had primary education; majority 13(43.33%) were private employees; 15(50%) had monthly income of less than Rs.5000; 16(53.33%) were suffering from illness for less than 6 months;

majority 25(83.33%) had no family history of respiratory illness; majority 24(80%) were taken medications as the treatment for respiratory diseases; majority 14(46.67%) occasionally smokes; 18(60%) were not following any exercises, and 17(56.7%) were doesn't received any incidental education regarding the breathing exercises, whereas in the control group, majority 13(43.33%) were in the age group of 41 – 45 years; 21(70 %) were male; 19(63.33%) were Hindus; 11(36.67%) had no formal education; 16(53.33%) were self-employees; 13(43.3%) had monthly income of less than Rs.5000; 18(60%) were suffering from illness for less than 6 months; majority 24(80%) had no family history of respiratory illness; 20(66.67%) were taking medications as the treatment for respiratory diseases; majority 16(53.33%) occasionally smokes; 15(50%) were irregularly doing exercises, and 14(46.67%) were doesn't received any incidental education regarding the breathing exercises.

2. The analysis of pre test level of dyspnea in experimental group, revealed that majority 19(63.33%) had severe dyspnea, and 11(36.66%) had moderate level of dyspnea, whereas the post test level of dyspnea in experimental group, revealed that majority 16(53.33%) had moderate dyspnea, 9(30%) had mild level of dyspnea,4 (13.33%) had no evidence of dyspnea, and 1(3.33%) had severe dyspnea, whereas the analysis of pretest level of dyspnea in control group, revealed that majority 22(73.33%) had severe dyspnea, 7(23.33%) had moderate level of dyspnea and 1(3.33%) had mild level of dyspnea, whereas the post test level of dyspnea in control group, revealed that majority 19(63.33%) had severe dyspnea, 8(26.66%) had moderate level of dyspnea 2(6.66%) had mild dyspnea, and 1(3.33%) had no evidence of dyspnea.
3. Comparison of pre test and post test level of dyspnea among patients with bronchial asthma in experimental group revealed that, the mean pre test value of level of dyspnea was 1.36 with S.D 0.482 and the mean post test value of

level of dyspnea was 2.5 with S.D 0.763. The calculated paired “t” value of 6.926 was found to be statistically significant at $p<0.05$ level. This clearly shows that the provision of respiratory care bundle has reduced the post test level of dyspnea among patients with bronchial asthma in experimental group, whereas the comparison of pre test and post test level of dyspnea among patients with bronchial asthma in control group revealed that the mean pre test value of level of dyspnea was 1.3 with S.D 0.53 and the mean post test value of level of dyspnea was 1.5 with S.D 0.86. The calculated paired “t” value 1.1 was not found to be statistically significant. This clearly shows that there was no significant change in the pre test and post test level of dyspnea among patients with bronchial asthma in the control group.

4. Comparison of post test level of dyspnea between the experimental and control group revealed that the mean post test score in the experimental group was 2.5 with S.D 0.763 and the mean post test score in the control group was 1.5 with S.D 0.86. The calculated unpaired “t” value 4.762 was found to be statistically significant at $p<0.05$ level. This clearly indicates that after the provision of respiratory care bundle there was a significant reduction in the post test level of dyspnea among patients with bronchial asthma in experimental group than in the control group.
5. The chi square value showed significance association between the level of dyspnea to patients with bronchial asthma. The demographic variable duration of the illness had shown statistically significant association with post test level of dyspnea at $P<0.05$ level and the other demographic variables were not found to be statistically significant associated with the post test level of dyspnea among patients with bronchial asthma in the experimental group.

## CONCLUSION:

1. Respiratory care bundle is a very effective to reduce the level of dyspnea among patients with Bronchial Asthma.

2. The findings of the present study agree with the findings of the clinical studies regarding respiratory care bundle.

## NURSING IMPLICATIONS:

1. The findings of the present study supports that, respiratory care bundle is very effective to reduce the level of dyspnea among patients with bronchial asthma.

2. It can be provided as an effective non pharmacological management to reduce the level of dyspnea among patients with bronchial asthma.

3. It can be provided as a comprehensive respiratory nursing care as a respiratory rehabilitation measure.

## IMPLICATIONS FOR NURSING PRACTICE:

1. The findings of the study enlighten the fact that respiratory care bundle is very effective care to reduce the level of dyspnea among patients with bronchial asthma.

2. The study findings help the nursing personnel to include respiratory care bundle as a comprehensive nursing intervention package in the management of patients with bronchial asthma.

3. Awareness can be created among patients about effectiveness of breathing exercises as well as the health education cum respiratory rehabilitation program.

4. Respiratory care bundle can be practiced by patients with respiratory problems to prevent the further respirator complications.

## IMPLICATIONS FOR NURSING EDUCATION:

1. The effectiveness of respiratory care bundle in reducing the level of dyspnea is to be published in the nursing journals to make awareness among the nursing professionals.

2. This study results can be used as an example by the nurse educator in the classroom, while explaining about the care of patients with bronchial asthma.

3. Nursing students can educate the patients with bronchial asthma to follow respiratory care bundle to reduce the level of dyspnea.

## IMPLICATIONS FOR NURSING ADMINISTRATION:

1. Nurse administrator can create awareness among staff nurses and patients with bronchial asthma to enlighten their knowledge about the importance of respiratory care bundle on dyspnea in hospitals.

2. In-service Education can be conducted regarding the use of respiratory care bundle in reduction of level of dyspnea among staff nurses.

## IMPLICATIONS FOR NURSING RESEARCH:

1. The findings of the study will help to expand the scientific body of professional practice as a evidence based activity for further research.

2. Nurse researcher has to conduct the research by comparing the respiratory care bundle with other therapies.

3. This study motivates nursing personnel to do further studies related to this field.

## LIMITATIONS:

1. The study was limited to evaluate the effectiveness of respiratory care bundle only on level of dyspnea among patients with bronchial asthma.
2. The study was limited to acute asthmatic patients.
3. The provision of respiratory care bundle was limited only to a period of 3 days.
4. The study was limited to 6 weeks.

## RECOMMENDATIONS:

1. The study could be conducted by using large population to generalize the study findings.
2. A longitudinal study could be conducted to assess the effectiveness of Respiratory care bundle among patients with bronchial asthma.
3. A comparative study could be conducted between various breathing exercises and incentive spirometry.
4. This study could be done in multiple settings such as referral hospitals, community health centers.
5. Training programmes for nurses can be given regarding various complimentary therapies including respiratory care bundle.
6. A study can be conducted to evaluate the effectiveness of respiratory care bundle on respiratory physiological parameters among patients with bronchial asthma.
7. Nurse researcher can conduct the same study among patients with other respiratory problems.

# REFERENCES

## BOOKS


- Audree Raynolds. (2001). **"Medical Surgical Nursing"**. 2nd edition. Newdelhi: Jaypee Brothers Publication

- Bare, G.B, &Smeltzer,C.S. (2011). "**Textbook Of Medical Surgical Nursing".**Volume 1. 12th edition. Philadelphia: Lippincott Publishers

- Barabara Marie. (2006). **"Introduction to patient care".** 4th edition.Newdelhi:Elsevier Publication

- Basavanthappa B.T. (2007). "**Text book of nursing research"**. 3rd edition. New delhi:Jaypee brothers Publishers

- Black M.J Hawks H.J.& keen A.M**.** (2001). "**Medical Surgical Nursing".** Volume 2. 6th edition. Philadelphia :W.B Saunders Publishers

- Brunner &Suddharth. (2006), "**Text book of medical surgical nursing"**. 11th edition. New delhi: lippincott publishers.

- Duncan, G &White, L**.** (1998). "**Medical Surgical Nursing, An Integrated Approach".** 9th edition. London : Delmar publishers.

- Erb, cozier, barman, & burke**.** (2000). "**Fundamentals of Nursing"**. 6th edition. California: Pearson publishers.

- Finkelmeier, B.A**.** (2008). "**Cardiothoracic Nursing".** 4th edition. Philadelphia: Lippincott publishers.

- George, B.J. (1990). "**Nursing theories, the base for professional nursing practice"** 4th edition. Newberys: Appleton and longer Publishers

- Goyal, R C. (2013). **"Research methodology for health professionals",**1st edition. Newdelhi: Jaypee Brothers Medical Publishers

- Jacqueline young. (2011) "**Breathing for health, a complete self care manual"**.1st edition. Missouri :torsions Publishers

- Joyce M. Black & Jane HokansonHwaks. (2009). "**Medical Surgical Nursing"**. 8th edition. Philadelphia: WB Saunders Company Publishers.

- Kasper, d et al., (2006). "**Harrisons principles of internal medicine"**. 16th edition. New York: McGraw hill Publishers.

- Lewis, Hiet Kemper &Drikson. (2004). "**Text book of Medical Surgical Nursing".** 5th edition**.** Philadelphia: Mosby Publishers.

- Luckman & Soronsen. (2001). "**Text book of Medical Surgical Nursing-Psycho Physiologic Approach".** 4th edition. Philadelphia: WB Saunders company

- Patricia L Munhall. (2001). **"Nursing research".** 1st edition. New york: Jones and Bartlett Publishers

- Polit, D.F. & Hungler B.P. (2004). "**Nursing Research Principles and Methods".** 5th edition. J.B.Philadephia: Lippincott Publishers.

- Potter A. Perry Griffin Anne. (2001). "**Fundamentals of Nursing".** 5th edition , London: Mosby Publishers

- Robert. (2010). **"Anatomy and Physiology for nurses"**. 1st edition. New york: Janes and Bartlet Publishers.

- Ross and Wilson. (2017). "**Textbook of Anatomy and Physiology in health and illness".**10th edition. Philadephia: Livingstone company.

- Sundar Rao , P.S Richard J. (1999). "**An Introduction to Biostatistics- A manual for students in health science"**. 3rd edition. Philadephia: Lippincott company

- Suresh K Sharma. (2012), **"Nursing Research and statistics".** 2nd edition. New Delhi: Elsevier Publications.

- Suzane C. Smeltzer & Bernda Bare. (2008). "**Text book of Medical Surgical Nursing".** 10th edition.Philadephia: Lippincott Company.

- Williams & Wilkins. (2006). "**Mannual of Nursing Practice".** 8th edition. Philadephia: Lippincott Company.

**JOURNALS**


- Chatham K, Baldwin J, Oliver W, Summer L and Friffiths H. (1996). Fix load incremental Respiratory muscle training: a pilot study and physiotherapy, New York USA: 82(7)

- Craven JL, Evans GA, Davenport PJ, William RHP. (1974). The evaluation of incentive spirometry in the management of post-operative pulmonarycomplication.Br j surge : 61

- Elisabeth Westerdahl, et al., (2003).The effects of deep breathing exercises on pulmonary function. Nlm catalog. Dec: 37(6)

- Hoek G, brukenreef B, hotschreuder p and lumens. (1990). Effects of air pollution episodes on pulmonary functions and respiratory symptoms, toxicology and India's health, New Delhi India 6(5)

- James E et al.(2003).Chronic respiratory disease-an emerging public health problem. National TB association, New York.

- Prasanna kumara. (2008).Effect of programmed breathing exercise. On pulmonary function in the and post-operative periods in patients undergoing mitral valvotomy, national medical journal: 8 (7)

- Southan D J. (2010). Diaphragmatic or abdominal breathing in asthmatic and physiotherapy; its value in physiotherapy. New York USA: 73(8)

- Stephen, C. (1999). Changes in pulmonary function after naturally acquired respiratory infection in normal persons. American review of respiratory diseases USA Newyork: 20.


**NET REFERENCES**


- http://ejournal-tnmgrmu.ac.in/index.php/UJNS/article/view/3851
- http://repository-tnmgrmu.ac.in/2380/1/3001137adlinprabhapr.pdf
- http://repository-tnmgrmu.ac.in/2424/1/3001311gloryjoyj.pdf
- http://repository-tnmgrmu.ac.in/6913/1/300123317kathika.pdf
- http://repository-tnmgrmu.ac.in/1328/1/3001275lathar.pdf
- https://www.ncbi.nlm.nih.gov/pubmed/22479873/Relationship of respiratory care bundle with incentive spirometry
- https://www.respiratoryfutures.org.uk/media/1764/care-bundle-report-june-2015.pdf
- https://www.brit-thoracic.org.uk/standards-of-care/quality-improvement/care-bundle-for-asthma/
- https://www.continuingeducation.com/bundle/bpharm12/respiratory-care-bundle/
- https://www.ijsr.net/archive/v4i2/SUB151507.pdf / Effectiveness of respiratory care bundle on dyspnea among bronchial asthma.
- http://www.who.int/news-room/fact-sheets/detail/asthma

- https://www.researchgate.net/publication/230631893_Indian_Study_on_Epidemiology_of_Asthma_Respiratory_Symptoms_and_Chronic_Bronchitis_in_adults_INSEARCH
- https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(17)30293-X/fulltext/ Global Burden of disease study/ Respiratory diseases
- https://www.ncbi.nlm.nih.gov/pubmed/22871327/ Indian study on epidemiology of asthma, respiratory symptoms and chronic bronchitis in adults
- https://medlineplus.gov/
- https://www.omicsonline.org/peer-reviewed/prisk-factors-associated-with-asthma-among-saudi-adults-in-najranp-96994.html
- http://download.portalgaruda.org/article.php?article=512346&val=10471&title=Evaluating%20Asthma%20Knowledge%20among%20Patients%20with%20Bronchial%20asthma;%20A%20Cross%20sectional%20study
- http://download.portalgaruda.org/article.php?article=512226&val=10471&title=Assess%20the%20effectiveness%20of%20deep%20breathing%20exercise%20with%20incentive%20spirometry%20on%20respiratory%20status%20of%20patients%20who%20undergone%20cardiothoracic%20surgery

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4196548/ Occupations with an increased prevalence of self-reported asthma in Indian adults/ SutapaAgarwal et al
- https://pdfs.semanticscholar.org/e968/335f6545fba15db0f49db02ff34acbb17a71.pdf/ Asthma Patient's Knowledge Regarding Diagnosis and Treatment
- http://www.ijoy.org.in/article.asp?issn=09736131;year=2017;volume=10;issue=3;spage=145;epage=151;aulast=Agarwal
- https://www.researchgate.net/publication/286955470_Active_cycle_of_breathing_techniques_and_incentive_spirometer_in_coronary_artery_bypass_graft_surgery
- https://www.researchgate.net/publication/264991644_Incentive_spirometry_combined_with_expiratory_positive_airway_pressure_improves_asthma_control_and_quality_of_life_in_asthma_A_randomised_controlled_trial
- https://www.researchgate.net/publication/223961468_Relationship_of_respiratory_care_bundle_with_incentive_spirometry_to_reduced_pulmonary_complications_in_a_medical_general_practice_unit
- https://www.researchgate.net/publication/233801271_efficacy_of_active_cycle_of_breathing_technique_and_postural_drainage_in_patients_with_bronchiectasis-_a_comparative_study
- https://en.wikipedia.org/wiki/Open_system_(systems_theory)

# APPENDICES

## APPENDIX - A

## TOOL FOR DATA COLLECTION

## DEMOGRAPHIC VARIABLES

**Kindly answer the following questions,**

1. Age in years

   a) 31-35years

   b) 36-40years

   c) 41-45years

   d) 46- 50years

2. Gender

   a. Male

   b. Female

3. Marital status

   a. Married

   b. Unmarried

   c. Separated

   d. Widow

4. Religion

   a. Hindu

   b. Christian

   c. Muslim

   d. Others

5. Educational status

   a. No formal education

   b. Primary education

   c. High school and Higher secondary

   d. Graduate

6. Occupation

   a. Unemployed

   b. Self-employed

   c. Private employee

   d. Government employee

7. Family income per month

   a. Less thanRs.5000

   b. Rs.5001 – Rs.10000

   c. Rs.10001 – Rs.15000

   d. More than Rs.15000

8. Duration of illness

   a. Less than 6 months

   b. 6 months – 1 year

   c. More than 1 year

9. Family history of respiratory diseases

    a. Maternal

    b. Paternal

    c. Nil parity

10. Type of treatment taken for respiratory diseases

    a. Medications

    b. Inhalers

    c. Others

11. Smoking habits

    a) Non smoker

    b) Occasionally smokes

    c) Chain smoker

12. History of doing physical exercises

    a) Regular

    b) Irregular

    c) Not Following

13. Previous exposure to incidental education regarding breathing exercises

    a. Educated by health care professionals

    b. Educated by allied health professionals

    c. Not received any incidental education

**MODIFIED BORG'S DYSPNEA SCALE**

| | |
|---|---|
| 0 | Nothing at all |
| 1 | Very very slight |
| 2 | Very Slight |
| 3 | Slight |
| 4 | Somewhat Moderate |
| 5 | Moderate |
| 6 | Somewhat Severe |
| 7 | Severe |
| 8 | Very severe |
| 9 | Very very severe |
| 10 | Maximal |

**Ask the patient to describe the difficulty of breathing and rate the described level of dspnea under the grading categorized as follows.**

**SCORE KEY**

| SCORE | GRADING |
|---|---|
| 4 | No evidence of Dyspnea |
| 3 | Mild Dyspnea |
| 2 | Moderate Dyspnea |
| 1 | Severe Dyspnea |

# APPENDIX - C

## PROCEDURE OF RESPIRATORY CARE BUNDLE

### A) ORAL CARE

1) The patients were instructed to brush with tooth paste 2 times a day.
2) Before doing deep breathing exercises rinse the mouth with salt water followed by plain water.

### B) DEEP BREATHING EXERCISE

1) Provide fowler's position.
2) Place both hand on the stomach just below the ribs.
3) Breathe in slowly and deeply through the nose and letting abdomen protrude as far as it will. The abdomen enlarges during inspiration and decrease in size during expiration.
4) Breathe out through pursed lips.
5) The chest should move as possible, attention should be ducted to the abdomen not to the chest.
6) Repeat the procedure for 10 minutes, followed by rest period of 2 minutes.

## C) INCENTIVE SPIROMETER

1) Provide fowler's position.

2) Instruct the individual to exhale slowly and completely. At the end of the quiet exhalation, the patient is instructed to inhale through the mouth piece of the incentive spirometer to raise the balls in the container to touch the top of the device followed by taking slow deep inhalation.

3) End inspiratory hold: Following maximum inhalation, the patient is instructed to hold the breath for 3-5 seconds.

4) In between the respirations the patients has to relax.

5) Invert the incentive spirometer and asks the patient to blow forcefully to the maximum extent through the mouth piece.

6) Repeat the procedure for 10 minutes.

## APPENDIX: D

## a) LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

From,

Mr. AbyThankachan

M.Sc. Nursing II year

Karpaga Vinayaga College of Nursing,

Pudukkottai

To,

The Principal

KarpagaVinayaga College of Nursing,

Pudukkottai

Respected Madam

**Sub: Requesting permission to conduct study, regarding…**

This is for your kind information that, I am Aby Thankachan, doing M.Sc.Nursing II year in Karpaga Vinayaga College of Nursing, Pudukkottai , under The Tamil Nadu , Dr. M.G.R Medical University , Chennai. As a partial fulfillment of my M.Sc. Nursing Degree programme, I am planning to do a research on **"A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"**.

I humbly request you to give the permission to conduct the study in your esteemed institution. I will be very grateful to you for your favour.

Thanking you ,

Yours sincerely,

Date :

Place : (AbyThankachan)

From,

Mr. AbyThankachan

M.Sc. Nursing II year

Karpaga Vinayaga College of Nursing,

Pudukkottai

To,

The Principal

KarpagaVinayaga College of Nursing,

Pudukkottai

Respected Madam

**Sub: Requesting permission to conduct study, regarding…**

This is for your kind information that, I am Aby Thankachan, doing M.Sc.Nursing II year in Karpaga Vinayaga College of Nursing, Pudukkottai , under The Tamil Nadu , Dr. M.G.R Medical University , Chennai. As a partial fulfillment of my M.Sc. Nursing Degree programme, I am planning to do a research on **"A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"**.

I humbly request you to give the permission to conduct the study in your esteemed institution. I will be very grateful to you for your favour.

Thanking you ,

Yours sincerely,

Date :

Place : (AbyThankachan)

**LETTER SEEKING PERMISSION TO CONDUCT THE STUDY**

From,

Mr. AbyThankachan

M.Sc. Nursing II year

Karpaga Vinayaga College of Nursing,

Pudukkottai

To,

Through,

The Principal

KarpagaVinayaga College of Nursing,

Pudukkottai

Respected Sir / Madam

Sub: Requesting permission to conduct study regarding

This is for your kind information that, I am Aby Thankachan, doing M.Sc.Nursing II year in Karpaga Vinayaga College of Nursing, Pudukkottai , under The Tamil Nadu, Dr. M.G.R Medical University , Chennai . As a partial fulfillment of my M.Sc. Nursing Degree programme, I am planning to do a research on **"A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI"**.

I humbly request you to give the permission to conduct the study in your hospital. I will be very grateful to you for your favour.

Thanking you ,

Yours sincerely,

Date :

Place : (AbyThankachan)

### c) LETTER REQUISITION TO MEDICAL GUIDE

From,

Mr.AbyThankachan

M.Sc.Nursing II year

KarpagaVinayaga College of Nursing

Pudukkottai

To,

Dr.Dhamodran, MD

Consultant Pulmonologist

MuthumeenakshiHospital ,

Pudukkottai

Through ,

The Principal

KarpagaVinayaga College of Nursing

Pudukkottai

Respected Sir ,

Sub: Requisition for content validity of the tool

This is for your kind information that, I am Mr.AbyThankachan, M.Sc.Nursing II year student of KarpagaVinayaga College of Nursing, Pudukkottai, have plan to conduct a research project which is to be submitted to The Tamil Nadu Dr. M.G.R Medical University requirements for the award of Master of Science in Nursing Degree.

TOPIC: **A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI**.

I humbly request you to give me guidance and suggestion for conducting the study.

Thanking you

Your'sFaithfully,

(AbyThankachan)

## c) LETTER REQUISITION FOR VALIDATION OF THE TOOL

From,

Mr. AbyThankachan

M.Sc.Nursing I year

KarpagaVinayaga College of Nursing ,

Pudukkottai

To,

Through,

The Principal

KarpagaVinayaga College of Nursing ,

Pudukkottai

Respected Sir / Madam

Sub: Requisition for content validity of the tool

I am Aby Thankachan, doing M.Sc. Nursing I year in Karpaga Vinayaga College of Nursing, Pudukkottai, under The Tamil Nadu , Dr. M.G.R Medical University, Chennai. As a partial fulfillment of my M.Sc. Nursing Degree programme, I am planning to do a research on **"A study to evaluate the effectiveness of respiratory care bundle on respiratory physiological parameters among patients with bronchial asthma at selected hospitals, Pudukottai",**. Structured interview schedule, and Modified borg's dyspnea scale are the tools that have been developed for the research study. I humbly request you to do the content validity of described tools and give your expert and valuable opinion.

I will be very thankful for your kind consideration. Kindly return it to the undersigned.

Thanking you,

Yours sincerely,

(AbyThankachan)

Encl:

1. Certificate of content validity
2. Chapter I, III & tool for data collection
3. 3 Point Scale for evaluating the chapters and tool
4. Self-addressed envelope

## d) CERTIFICATE FOR VALIDITY

This is to certify that the structured interview schedule and observational checklist on **"A study to evaluate the effectiveness of respiratory care bundle on respiratory physiological parameters among patients with bronchial asthma at selected hospitals, Pudukottai",** has been validated and found appropriate with mentioned suggestion.

Signature :

Name :

Designation :

Name of the college :

## e) LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Dr. P. Dhamodharan, MD**

   Consultant Pulmonologist,

   Muthumeenakshi Multispecialty Hospital,

   Pudukkottai.

2. **Prof. Mrs. S. Sumithra. M.Sc.(N),M.Sc.(Y), [PhD].,**

   Principal

   Karpaga Vinayaga College of Nursing,

   Pudukkottai

3. **Prof. Mrs.Poonguzhali, M.Sc.(N).,MA.,MBA., [PhD].,**

   Principal,

   College of Nursing,

   Madurai Medical College, Madurai-20.

4. **Prof. Mrs. Victorial Chandran, M.Sc.(N)**

   Principal cum HOD of Medical Surgical Nursing,

   Mercy College of Nursing,

   Kollam, Kerala.

5. **Prof. Sara, M.Sc.(N), [PhD].,**

   HOD, Dept of Medical Surgical Nursing.

   Rani Meyyammai College of Nursing,

   Annamalai University, Chidambaram.

6. **Prof. Dr. G. Jayathangaselvi, M.Sc.(N)., [PhD].,**

   HOD, Dept of Medical Surgical Nursing.

   C.S.I Jeyaraj Annapackiam College of Nursing,

   Madurai

7. **Prof.Dr. Devaikirubai, M.Sc.(N), P.hD**

   HOD, Dept of Medical Surgical Nursing

   Sacred Heart College of Nursing, Ultra Trust, Madurai

8. **Prof. Reena , M.Sc.(N)**

   Principal

   Tagore College of Nursing, Chennai

MuthuMeenakshi
HOSPITALS
blessed to serve

**Date:**

**TO WHOMEVER IT MAY CONCERN**

This is to certify that the candidate **Mr. Aby Thankachan, M.Sc. Nursing, Second year** successfully completed the training for **Deep Breathing Exercises and Incentive Spirometry** from 11-12-2017 to 18-12-2017 and can very well apply these exercises to reduce the level of dyspnea among patients with Bronchial Asthma. It is valid to apply these exercises for the research work titled **"A quasi experimental study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, Pudukkottai"**.

**Dr. P. Dhamodharan, MD.,**
Consultant Pulmonologist,
Muthumeenakshi Multispecialty Hospital,
Pudukkottai.

**Mrs. Shalini . S , MPT**
Physiotherapist,
Muthumeenakshi Multispecialty Hospital,
Pudukkottai.

MUTHU MEENAKSHI HOSPITALS PVT. LTD. PUDUKKOTTAI 622 001

**SOUTH 4TH STREET, PUDUKKOTTAI - 622 001**
**Email: info@muthumeenakshihospitals.com Ph :04322 - 24 24 24**

**CERTIFICATE FOR VALIDITY**

This is to certify that the Structured Interview Schedule and Modified Borg's Dyspnea Scale on **"A study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, Pudukottai"**, has been validated and found appropriate with mentioned suggestion.

Signature :

Name : G. SANTHOSHKUMAR

Designation : ASSISTANT PROFESSOR

Name of the college :

G. SANTHOSHKUMAR, M.Sc.,M.Phil.,DCM.,
ASSISTANT PROFESSOR,
J.J. COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS),
SIVAPURAM, PUDUKKOTTAI 622 422.

**PERMISSION LETTER**

From ,

Mr.AbyThankachan
M.Sc.Nursing II year
KarpagaVinayagaCollege of Nursing,
Pudukkottai

To,

The Managing Director
Muthumeenakshi Hospital
Pudukkottai

Through,

The Principal
KarpagaVinayagaCollege of Nursing,
Pudukkottai

Respected Sir / Madam

Sub :Requisting permission to conduct study regarding

This is for your kind information that, I am AbyThankachan ,doing M.Sc.Nursing II year in KarpagaVinayaga College of Nursing , Pudukkottai , under The Tamilnadu , Dr. MGR Medical University , Chennai . As a partial fulfilment of my M.Sc.Nursing Degree programme, I am planning to do a research on **"A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON RESPIRATORY PHYSIOLOGICAL PARAMETERS AMONG PATIENTS WITH RESPIRATORY PROBLEMS AT SELECTED HOSPITALS, PUDUKKOTTAI ".**

I humbly request you to give the permission to conduct the study in your esteemed institution. I will be very grateful to you for your favour.

Thanking you ,

Yours sincerely ,

Forwarded 31/1/18

Date :

Place :

MUTHU MEENAKSHI HOSPITALS PVT. LTD., PUDUKKOTTAI 622 001

( AbyThankachan )

## CERTIFICATE FOR VALIDITY

This is to certify that the Structured interview schedule and observational checklist on **" A study to evaluate the effectiveness of respiratory care bundle on respiratory status among patients with respiratory problems at selected hospitals at Pudukkottai "** , has been validated and found appropriate with mentioned suggestion .

Signature : B.Sara

Name : Dr. B. SARA

Designation : READER IN NURSING

Name of the college : RANIMEYYAMMAI COLLEGE OF NURSING
ANNAMALAI UNIVERSITY

## CERTIFICATE FOR VALIDITY

This is to certify that the Structured interview schedule and Modified Borg's Dyspnea Scale on "A Quasi Experimental study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, Pudukkottai", has been validated and found appropriate with mentioned suggestion.

Signature : S.P 6/2/18

Name : Prof. S.POONGUZHALI MSc(N)

Designation : PRINCIPAL

Name of the college :

PROF. S.POONGUZHALI M.Sc(N).,M.A.,MBA.,Ph.D.,
PRINCIPAL
COLLEGE OF NURSING,
MADURAI MEDICAL COLLEGE, MADURAI-20

## CERTIFICATE FOR VALIDITY

This is to certify that the Structured interview schedule and Modified Borg's Dyspnea Scale on "A Quasi Experimental study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, Pudukottai", has been validated and found appropriate with mentioned suggestion.

Signature : Sd

Name : Dr. E. Gnanaiah

Designation : Professor

Name of the college : Sacred Heart Nsg. College
Madurai

**CERTIFICATE FOR VALIDITY**

This is to certify that the Structured interview schedule and Modified Borg's Dyspnea Scale on "A Quasi Experimental study to evaluate the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals, Pudukottai", has been validated and found appropriate with mentioned suggestion.

Signature : 

Name : Prof. dr. G. Jaya Thangam Selvi

Designation : Head Cum Prof - Med - Surg

Name of the college : CSI

# TAGORE COLLEGE OF NURSING

## TAGORE MEDICAL COLLEGE & HOSPITAL (CAMPUS)

Rathinamangalam, Melakkottaiyur Post, Chennai - 600 127. Ph : 30102222
Email : tagorenursing2017@gmail.com Phone : 044 30102277
(Recognized by Indian Nursing Council, New Delhi. Tamilnadu Nurses and Midwives Council, chennai and Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Guindy, Chennai).


## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by **Mr.Aby Thankachan C**, M.Sc., Nursing student of Karpaga Vinayaga College of Nursing for the study "**A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON RESPIRATORY STATUS AMONG PATIENTS WITH RESPIRATORY PROBLEMS AT SELECTED HOSPITALS, PUDUKKOTTAI**." is validated by the undersigned and he can proceed with this tool to conduct the main study.

**DATE:** 09/02/2018

**SIGNATURE**

## CERTIFICATE FOR VALIDITY

This is to certify that the structured interview schedule and observational checklist on **"A study to evaluate the effectiveness of respiratory care bundle on respiratory physiological parameters among patients with bronchial asthma at selected hospitals, Pudukottai",** has been validated and found appropriate with mentioned suggestion.

Signature :

Name : MRS. SHALINI. S, M.PT.,

Designation : PHYSIOTHERAPIST

Name of the college : MUTHUMEENAKSHI MULTISPECIALTY HOSPITAL, PUDUKKOTTAI

# CERTIFICATE FOR EDITNG

Certified that the dissertation paper titled "A Quasi Experimental study to assess the effectiveness of respiratory care bundle on dyspnea among patients with bronchial asthma at selected hospitals , Pudukkottai" by Mr. Aby Thankachan. It has been checked for accuracy and correctness of English language used in presenting the paper is lucid, unambiguous free of grammatical and spelling errors and is apt for the purpose.

SIGNATURE

S. SANTHAKUMARI
P.G ASST (ENGLISH)
GGHSS, KEERANUR

அரசு மகளிர் மேல்நிலைப்பள்ளி
கீரனூர் - 622 502.
புதுக்கோட்டை மாவட்டம்.

அரசு (மு) மேல்நிலைப் பள்ளி
கீரனூர், புதுக்கோட்டை-622 502.

**PERMISSION LETTER**

From ,

Mr.AbyThankachan
M.Sc.Nursing II year
KarpagaVinayaga College of Nursing,
Pudukkottai

To,

The Managing Director
Team Speciality Hospital
Pudukkottai

Through,

The Principal
KarpagaVinayaga College of Nursing,
Pudukkottai

Respected Sir / Madam

Sub :Requisting permission to conduct study regarding

This is for your kind information that, I am AbyThankachan , doing M.Sc.Nursing II year in KarpagaVinayaga College of Nursing , Pudukkottai , under The Tamilnadu , Dr. MGR Medical University , Chennai . As a partial fulfilment of my M.Sc.Nursing Degree programme, I am planning to do a research on **"A STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON RESPIRATORY PHYSIOLOGICAL PARAMETERS AMONG PATIENTS WITH RESPIRATORY PROBLEMS AT SELECTED HOSPITALS, PUDUKKOTTAI "**.

I humbly request you to give the permission to conduct the study in your esteemed institution. I will be very grateful to you for your favour.

Thanking you ,

Yours sincerely ,

Date :

Place :

( AbyThankachan )

Dr.K.H.SALIM, M.B.B.S., D.Diab.,
MANAGING DIRECTOR
TEAM SPECIALITY HOSPITAL,
PUDUKKOTTAI - 622 001.

**PERMISSION LETTER**

From,

Mr. Aby Thankachan
M.Sc.Nursing II year
Karpaga Vinayaga College of Nursing
Pudukkottai

To,

Dr. Dhamodran , MBBS , MD
Consultant Pulmonologist
Muthumeenakshi Hospital ,
Pudukkottai

Through ,

The Principal
Karpaga Vinayaga College of Nursing
Pudukkottai

Respected Sir ,

Sub: Requisition for content validity of the tool

This is for your kind information that, I am Mr. Aby Thankachan, M.Sc.Nursing II year student of Karpaga Vinayaga College of Nursing, Pudukkottai, have plan to conduct a research project which is to be submitted to The Tamil Nadu Dr. M.G.R Medical University requirements for the award of Master of Science in Nursing Degree.

TOPIC: **A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY CARE BUNDLE ON DYSPNEA AMONG PATIENTS WITH BRONCHIAL ASTHMA AT SELECTED HOSPITALS, PUDUKKOTTAI.**

I humbly request you to give me guidance and suggestion for conducting the study.

Forwarded 1/8/18

Thanking you

Your's Faithfully,

(Aby Thankachan)

## CERTIFICATE FOR VALIDITY

This is to certify that the Structured interview schedule and observational checklist on " A study to evaluate the effectiveness of Respiratory Care Bundle on respiratory physiological parameters among patients with Bronchial asthma at selected hospitals, in Pudukkottai ", has been validated and found appropriate with mentioned suggestion .

Signature : Victorial Chamikran

Name : VICTORIAL SELVA KUMARI

Designation : PRINCIPAL

Name of the college :

Prof. Mrs. Victorial Selva Kumari. C
Principal
Mercy College of Nursing
Valakom, Kottarakara-691532
KERALA STATE